

MINICAM



March

25¢

"DO YOUR OWN SPEED TESTS"

By the Technical Editor

"NAKED" FOR THIS
COVER'S MODEL

"SHARPING TO SALON PRINT"

"HOW TO ALIENATE
YOUR FRIENDS"

"TIGER HUNTING WITH SPEAR
AND MINICAM"

And many other articles for
Every Camera User

The Miniature Camera Monthly



A one-shot portrait of the Oriental movie star, Tachi Ohana, the Eleanor Powell of Tokyo. From the three Defender separation negatives, an 11 x 14 Chromatone print was made and the engraver worked from the Chromatone. Graying of high-

lights, reducing contrast and tone scale, are familiar faults of prints from color photographs. The above print shows that brilliant highlights are obtainable in correctly exposed and developed color prints.



Agfa Ultra-Speed Pan film, 1/30th sec. at f 3.2

BREAKING A SPEED RECORD ON BROADWAY!

THIS picture was made on Agfa Ultra-Speed Pan . . . the new 35 mm. film that's *three times as fast as any miniature camera film previously manufactured.*

Notice how the amazing speed of this new film has "stopped" the swiftly twinkling electric signs . . . the moving autos and people!

**ULTRA-SPEED PAN OPENS UP A
WHOLE NEW WORLD FOR THE MINICAM FAN**

Pictures like this show how Agfa's astonishing new film makes possible *a new range of picture opportunities* . . . under lighting conditions that would formerly have been

considered impossible. The speed of this new film permits a lens opening of f3.5 for subjects that would ordinarily require an opening of f2.

Ultra-Speed Pan is fully sensitive to all colors, with wide latitude, excellent clarity and keeping quality. No sacrifice of *any* of these characteristics has been made to obtain the unusual speed!

Get Agfa Ultra-Speed Pan at your dealer's today! Available for all 35 mm. cameras.

**Made by Agfa Ansco Corporation in
Binghamton, New York.**

AGFA

ULTRA-SPEED PAN 35 MM. FILM





YOUR PICTURES ARE BRIGHTER



GLASS-BEADED SCREEN

If you want to show your movies or stills at their best — project them onto a Da-Lite glass-beaded screen! The surface of this screen gives you the brightest, clearest pictures you have ever seen. It puts depth into your pictures. It makes every shot "sing." It is the ideal surface for colored and black and white pictures as it brings out faithfully the true color values in your film. There is no sparkling or glare. Beads are guaranteed not to shatter off.

Da-Lite glass-beaded screens are available in many styles and sizes for every projection requirement. Above is illustrated the Junior model which may be hung on a wall. It also has a separate spring wire support for setting upon a table. Prices range from \$2.50 up. Ask your dealer to show you these finer screens. Or write for free literature.

DA-LITE SCREEN CO., Inc.

Dept. M, 2723 North Crawford Ave., Chicago, Ill.



Sirs:

I am enclosing a Sunset picture in the hope that you will find it worthy of publication in your fine magazine.

This picture was taken by myself near the



end of October on the way home from a hunting trip at a spot about five or ten miles south of Troy, N. Y. An Argus camera was used and set *f*11 at 1/50th of a second. No filter was used and the film was Eastman Super X.

Your magazine has been a great help to me in obtaining better pictures and understanding more about the art of taking them.

L. W. TIMBS

Long Island, N. Y.

Sirs:

After reading the claims for the new Agfa Ultra Speed 35mm film, I felt like the lad from the country at the circus zoo watching the giraffe. After looking the beast over for three hours he pushed off saying, "Shucks, there ain't no such animal."

So, in a spirit of research, I bought a 15 exposure length and went out to burn it up. Camera used was a Super Nettle. In all, five subjects were taken. Three shots of each under identical light were made, assuming a Weston speed respectively of 50, 100, and 200!

In every case a printable negative was the result! The first of each set (taken at Weston 50) was dense enough for a contact print, the second (taken at Weston 100) was plenty dark for contact but still too thick for enlarging, the third shot (taken at Weston 200!) was better for enlarging and still had enough contrast for contact printing on hard paper.

Unfortunately we cannot send along negatives or prints as we took the negatives to the photograph store where we purchased the film for them to see and admire and that's the last we saw of it. First the lad there had to take it to the Camera Club and then they wanted it

(Page 8, please)

argus

CANDID CAMERA

- ★ STAGE SHOTS
- ★ FAST ACTION
- ★ PORTRAITS

The precision-built camera of such outstanding value that world-wide demand still exceeds production capacity.

Takes outstanding still pictures on low-cost 35 mm. movie film—either black and white or in color—36 exposures, one loading.

ARGUS Model AB

With high precision f4.5
Triple Anastigmat Lens

(Model AF with focusing mount, \$15.00)

\$12⁵⁰

AND—you can now “project” your pictures in life size and full color at only the cost of a small paper print with the new . . .

ARGUSLIDE PROJECTOR

Model CP

For projecting ARGUS, LEICA, CONTAX, RETINA, BANTAM SPL. and other miniature film slides.

Complete with 100
watt lamp and double
slide carrier.

\$15⁰⁰



Ask Your Argus Dealer for a Demonstration

INTERNATIONAL RESEARCH CORPORATION

173 FOURTH AVENUE

ANN ARBOR, MICHIGAN





C O N T E N T S

Vol. 1

MARCH, 1938

No. 7

COVER

Shootin' the Dog.....Dufaycolor By Frank Raudt

COLOR PLATE

Japanese LadyChromotone By Luke Hammer

ARTICLES

Snapshot to Salon Print..... 11	Make Your Own Tests..... 64
By Bob Leavitt, A.R.P.S.	By Herbert C. McKay, F.R.P.S.
Ideas, Illustrated 14	Long-Range Snapshotting..... 68
By Allen Lekus	By Victor H. Wasson
How to Make Enemies and Alienate Friends 19	Makeup for Your Color Picture..... 72
By Phillip Grenville	By Peter Jean Vest
Beginner's Bugaboos 25	Minicam's Contests 76
By C. Warden La Roe	
Hands 27	
By H. A. von Behr	
The Figure 33	
By Alfred Cheney Johnston	
Playing with Pattern..... 36	
By Samuel Grierson	
A Tiger Hunt with Spear and Minicam.... 50	
By Sasha A. Siemel	
The Street Market..... 57	
By Alexander Lindey	
A Photographer's Nightmare..... 61	
By Jacob Deschin	

5-MINUTE FEATURES

In Focus 4
Short-Short Story 24
Making Your Movie 41
In an Editor's Office..... 44
Photographing Electricity 46
Fast Developing 47
"Flash" the Cover's Shot..... 48
Questions and Answers..... 49
Shutter Tester 84
Book Reviews 86
Darkroom Tips 87
Trade News 91

Editorial, Circulation, and Publication offices, 22 E. 12th St., Cincinnati, Ohio. Managing Editor, Will Lane. Technical Editor, Herbert C. McKay, F.R.P.S. Contributing Editors: Jacob Deschin, H. Crowell Pepper. MINICAM, The Miniature Camera Monthly is published monthly by the Automobile Digest Publishing Corp. Yearly subscription, \$2.50, in U. S. A. and possessions. Canada and countries in Pan-American Postal Union, \$3.00. Elsewhere, \$3.50. Single copies, 25c. Title registration applied for. All material submitted for publication must be accompanied by a stamped return envelope and a statement of release from models used. Eastern advertising office: Everett Gellert, 11 West 42nd Street, New York City. Western advertising office, Bernard A. Rosenthal, 333 N. Michigan Avenue, Chicago, Ill. Home office, 22 E. 12th St., Cincinnati, Ohio.

MINICAM---THE MINIATURE CAMERA MONTHLY

UniveX DOES IT again!



THE LOWEST-PRICED QUALITY MINIATURE EVER OFFERED!

THINK of getting a precision-built miniature—so fast you can "stop action" instantly on hundreds of difficult subjects—at the sensational price of only \$3.50! Uses inexpensive UniveX Ultrachrome 10¢ roll film, or the new, faster panchromatic Ultrapan at 15¢. The UniveX Minicam is the perfect economical answer to every exacting amateur's requirements!

CHECK THESE FEATURES!
The UniveX Minicam is fit-

ted with a new-type Achro-mar Precision Lens—individually focussed, adjusted and tested on each camera. Shutter speeds for time exposures and 1/50-of-a-second snapshots. Spy-glass view-finder with two hand-polished lenses. Self-opening, with rigid extension mechanism. Antique bronze finish. Gives crystal-clear, sharply defined negatives $1\frac{1}{2}'' \times 1\frac{1}{8}''$, which make excellent $3'' \times 4''$ larger-prints. Only miniature that uses 6 exposure film, thus eliminating unnecessary picture-taking and delay.



AMERICA'S No. 1 MOVIE CAMERA

- Uses 60¢ Film
- Easy to load and operate
- Lenses interchangeable
- Written guarantee

\$9.95

With F:3.5 Lens . \$19.95

Universal Camera Corp.
Dept. 52, 32 W. 23rd St.
New York, N. Y.

FREE BOOKLET

Send me the free booklet checked below

☐ UniveX Minicam

☐ UniveX Cine "8"

Name _____

Address _____

City _____ State _____

Rolleicord



FOR BETTER PHOTOGRAPHY MORE EASILY ACHIEVED

Rolleicord Cameras leave little to guesswork. There is no squinting through small finders—no haphazard calculations of distance. The image of your subject is seen brilliantly, erectly, in actual film size, in a very luminous finder. You know exactly how your finished picture will look—exactly how sharp and clear and definite it will be. So many photographs made with these cameras achieve prizes, recognitions and honorable mentions—that it becomes quite evident how easy it is to make pictures with the Rolleicord. The preponderance of prize-winning pictures is clearly in their favor.

The two new models listed possess the latest and most up-to-date refinements that it is possible to incorporate in these cameras. Their popularity—hardly astonishing in view of their performance—has enabled economies resulting in the drastically reduced prices of Model II, formerly Ila.

II—Deluxe Model, with Zeiss
Triotor f/3.5 \$75.00
Ia—With Zeiss Triotor F/4.5 55.00

FREE TRIAL GLADLY GRANTED

At Leading Dealers Everywhere
Literature on Request

Write for information on the 1938 Rolleiflex Salon and Exhibition—to be held at Rockefeller Center, in May, the substantial prize awards, conditions, etc.

BURLEIGH BROOKS
Incorporated
127 WEST 42nd STREET, NEW YORK

(Continued from page 4)

to show prospective customers who to date have with remarkable unanimity called us both a pair of liars and gone out with their tongues in their cheeks. However, this is my story and I stay with it.

From my results, Agfa Ultra Speed film developed in Edwal 12 should, in daylight, give good results at a Weston film speed rating of 200 and even at Weston 250 not be too thin for clear pictures.

L. C. WARREN

Denver, Colo.

(Weston's speed rating for Ultra Speed is 64—Ed.)

Sirs:

I specialize in waterfront photography because so many opportunities are presented for interesting composition and unusual interest in pictures of this type. My work as an Inspector of Customs at the Port of New York brings me into close contact with ships, shipping, etc.



Contrary to the popular advice that in choosing photography as an avocation, we should choose scenes of activity other than those to which we are accustomed in our daily routine, I prefer taking pictures of waterfront scenery because it affords me an opportunity to bring to my friends a picture subject to which they are unaccustomed and which to me is a constant source of enjoyment.

Then again, there is always something romantic about a foreign vessel, with its strange cargo and sometimes stranger crew, possibly 10,000 miles from her home port, being safely berthed at one of our own piers, like a visitor to whom we are extending our hospitality, protection and cordiality.

LEROY MACKERODT

Brooklyn, N. Y.

Sirs:

It was certainly a most pleasant Christmas surprise to receive your letter enclosing the check for \$50, the second prize in your "Happiness" contest. You do not realize how greatly I appreciate winning this prize, and I wish to express my sincere thanks to you. Needless to say, I shall continue submitting prints to your contests in the future.

I have been taking pictures with a Kodak Retina for less than a year, and I believe that my advancement in this field is mainly due to the fact that I carefully study the respective

literature and am a constant reader of your excellent magazine, which provides such a splendid source of information and stimulation to the miniature camera amateur.

HENRY REID

New York

Sirs:

Enclosed please find two prints, the result of my first attempts at portrait work. Any success which I can claim is owed directly to your article on the subject in the December issue.



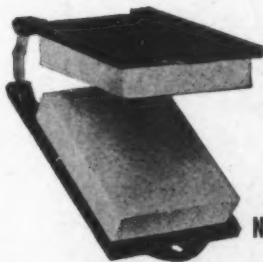
The pictures were taken with a Model 'B' Argus with f2.9 lens stopped down to f8 at 1/50th of a second using two photoflood lamps in reflectors on Panatomic film. The negative was developed in Edwal-12 and printed on Agfa Brovira paper.

R. HOLLAND
Glendale, Calif.

Sirs:

Why doesn't some manufacturer put a decent minicam tripod on the market. I have tried wood, steel, angular and tubular tripods, but not one within the reach of my pocket-

This Duo-Service VISCOSE SPONGE PACK



**ONLY
\$1.75
HANDY,
NECESSARY**

THESE two hinged sponges have a combined absorption of about 8 ounces. Surface moisture absorbed from front and back of film at the same time with only one hand! Imperishable . . . gasoline-proof . . . made of lintless artificial silk. Will accommodate film up to 3½ inches in width. Shipping weight one pound. Send for the fine sponge pack now! Pay postman \$1.75 plus a few cents postage on arrival.

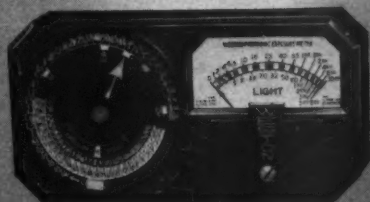
MARKS & FULLER, INC.

Dept. MC-18

Rochester, N. Y., U. S. A.

*In the Heart of the World's Photographic Industry
Since 1860*

**HERE'S
CORRECT
EXPOSURE**



. . . with color or new fast film

Your exposure problem will be increasingly complex this spring . . . with the marked changes in light values during the spring months, the narrow exposure latitude of color film, and the wide sensitivities now available in black and white.

But no exposure problem need concern you, if you have a WESTON. Simply set the WESTON at the recommended "film speed setting," take your reading and "shoot." Your negatives *all* will be correctly exposed; your positives *exactly* as you want them. See the WESTON at your dealer's now, or write for literature. Weston Electrical Instrument Corp., 606 Frelinghuysen Ave., Newark, N. J.

WESTON
Exposure Meter

Better Pictures on



SUPERIOR F G PARPAN MICROPAN INFRA D

35mm film for miniature cameras, obtainable at leading photographic supply dealers, available in daylight loading cartridges for Argus, Leica, Retina and similar cameras, and in daylight loading spools for the Contax and similar Zeiss Ikon cameras.

Also obtainable in 27½ ft. notched and numbered lengths (5 refills).

Superior and Fine Grain Parpan are available in Robot cartridges.

*Send Coupon Now for
Free Laboratory Booklet*

Du Pont Film Manufacturing Corporation, Inc.
9 Rockefeller Plaza, New York, N. Y.

Gentlemen:

Please send free laboratory booklet about
negative films for miniature cameras

Name

Address

M 3-38

book is any good. It slips on the floor, vibrates, is not high enough or lacks necessary adjustments. Right now I have my camera lashed to a stepladder. This is not bad for use at home, but is hardly portable, and I must admit that a stepladder is a pretty desperate makeshift for a tripod.

NEIL CORINS

New York.

(Lensman Corins is correct in emphasizing the importance of a good tripod, wrong in saying none are available. Let Mr. Corins peruse this issue's advertising columns and consult with MINICAM advertisers to find the tripod to suit his needs—Ed.)

Sirs:

Thanks very much for the check for my picture in MINICAM's Candid Camera Contest. The wife has been rather dubious about my camera efforts. But the check seemed to convince her that I hadn't been absolutely wasting my time. (Money talks.) Seriously though, we both got a real "kick" out of seeing the picture in print.

Thanks to MINICAM my technique is improving. I read it and read it (ask the wife), and think it's the best thing in print for the average amateur.

H. E. MORGAN

Fredonia, Kansas.

Sirs:

Why not mention a little point that many camera fans keep asking me. How far away from a certain subject must the camera be to obtain a certain size image? The respectable old optical equation $2F + FR + F/R = \text{Image size}$ on the negative, where R stands for the ratio between the actual size of the object and the desired image size, and where F represents the focal length of the lens . . . this will solve the problem.

Accordingly with the largest of accepted minicams a 120 film size camera with a lens of approximately 4 inches focal length, we might ask how far the camera needs to be away to make a ⅓-inch image of a human head. Since the average human head is between 9 and 10 inches long, we can use 10 inches for convenience. Then the ratio or R is ⅓ to 10 inches or here, $R=30$. F is 4. So $2F + FR + F/R$ is here $8 + 120 + 4/30\text{ths} = 128$ inches approximately. We thus have to have our camera 128 inches or 10 feet, 8 inches away from the human head to obtain an image size of ⅓ of an inch.

Using the same equation with the average 35 mm minicam having a 2-inch lens, we would have $4 + 60 + 2/30\text{ths} = 64$ inches about. Thus to gain a ⅓rd-inch image size here our camera would have to be within 5 feet, 4 inches of the subject.

This simple optical equation will quickly let us know the correct distance with any camera we must be away to obtain any particular image size of an object.

JOHN W. MOTTMAN
Olympia, Wash.

Snapshot to a Salon Print

By Bob Leavitt, A. R. P. S.



● Fig. 1. The picture as it was framed in the camera finder. Because of snap judgment, the most advantageous compositions could not be made.

● Fig. 2. Cropped in this fashion, the picture assumes a more pleasing design. However, the figures seem cramped by the closely adjacent borders.

“AT the bottom of many a dresser drawer there is a sliver of celluloid bearing the potentialities of a first-class salon print.” I said this to a friend some time ago and was surprised to find the statement challenged.

“Nerts,” he said. “A good print must be conceived in the photographer’s mind before he shoots.”

Home I went, and started rummaging in bureau drawers, wondering whether I would be able to prove my statement.

Some circus negatives brought my memory back to the day I covered an assignment in Madison Square Garden.

Watching a pair of circus acrobats through the viewfinder, there was no time to worry about arrangement or composition. What I saw became Fig. 1, a snapshot within the reach of any circus-goer.

The negative rescued from the obscurity

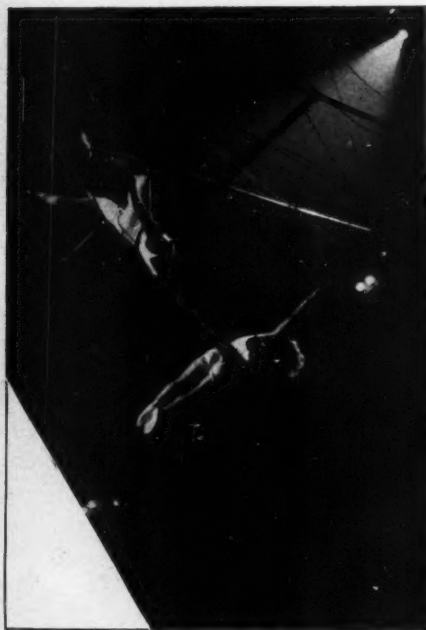


of the dresser drawer went into my enlarger, and I studied the image on the easel.

Diagonals give a grand sense of movement, so I moved the easel until the spotlight shone diagonally across the picture from the upper right hand corner. Then I masked off all the lights at the top and also eliminated the distracting lights and the twist of rope on the left hand margin. I now had Fig. 2. It was better than Fig. 1, but still not worth bragging about.

The horizontal picture was a more pleasing arrangement but lacked the feeling of spaciousness and breath-taking peril high under the circus roof. The swaying figures were cramped in a narrow frame. Obviously a vertical composition was called for.

To get action and airiness into the subject, I tilted the easel so that the invisible axis of the acrobats fell along the diagonal



● Fig. 3. To overcome the limitations of the horizontal composition shown in Fig. 2, the picture is swung into the vertical. This gives greater airiness around the swinging figures. Now, however, the lower left corner of the picture extends beyond the border.

of the horizontal picture. The result was Fig. 3. Now, however, the lower left corner extended beyond the frame border. To overcome this when I made the final print, I simply removed the negative from the enlarger after the picture had been projected and flashed in the white area, with emphasis on that corner.

This at the same time removed the objectionable cluster of lights in that corner. Unfortunately, the spotlight glare did not now extend in a full diagonal across the picture, but you can't have everything. If necessary, it might be air-brushed in by an artist. Future duplicate prints would then be made by making a copy negative. In doing flashwork of this sort, some wastage of paper must be expected. Once the right timing is obtained, it is advisable to make several prints to avoid waste in future reprintings.

The result? The photograph "Aerial Act," by its humble beginning as an inconsequential snapshot, and its final success as a salon print in several salons, proved that many potentially fine prints may even now be resting forgotten and unhonored in dusty negative files.

Fig. 1 was made with a Contax, *f*1.5 wide open at 1/100th of a second, on Superpan film. It was developed in Sease No. 3 and the final print made on contrast paper. Normal paper would have produced a satisfactory print, but I wanted to get very strong contrast between the white swaying bodies of the acrobats and the circus roof.

When I say that "Aerial Act" has been hung eight times and only thrice rejected by salons you can see what possibilities may come your way when least expected. In this case, I just grabbed the first hasty shot out from under the circus roof when I had my mind set on a professional assignment of a very different nature. With a little patience and practice many an enthusiastic snapshotter will find that some of his most unlikely pictures have the makings of exhibition prints.



- Fig. 4. To eliminate the blank corner, the negative was printed as shown in Fig. 3 and then removed from the enlarger, leaving the paper in place. The corner then was flashed in by turning on the enlarger light while holding a black card over all of the print except the lower left. This at the same time removed the objectionable cluster of lights in that corner.

The print was rejected by the following salons: London Royal; Toronto; 100 Print.

It was hung by the following salons: Oval Table; Philadelphia Miniature; Pittsburgh; Detroit; Pictorial Forum, N. Y. City; Los Angeles; Chicago; Diamond Jubilee, Phila.



● "Moon Over Manhattan" by Dudley Lee. A symbolic study in which part of the human figure represents the heavenly body.

IDEAS, ILLUSTRATED

By Allen Lekus

For the photographer who can present ideas, emotions and slogans photographically, there is a limitless field of adventure and profit.

WHEN today's shutter-clicker tires of recording faces and wants a holiday from pictorialism, he jumps ahead of his fellows by going after something that's as old as the hills and as fresh as 1938—symbolism.

A photograph may portray a mood, a

slogan, or a figure of speech. What is the theme of "Moon Over Manhattan"? This photograph earns a rating as a symbolic piece because it affects the imagination and becomes the center of a mural in each viewer's mind.

The effectiveness of slogans was demon-

strated during the World War when a six word phrase, "Make the world safe for democracy," did more to regiment public opinion than could millions of words.

In "Moon Over Manhattan," the photographer saw the moon likeness in the print of a nude figure study. Working on the negative with a brush and liquid Opaque, he drew an arc and painted out the rest of the figure. Next he printed in the cloud background.

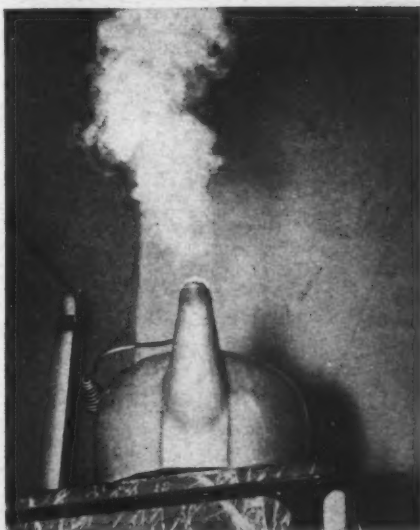
A third negative originally furnished a row of skyscrapers diagonally across the bottom and right hand corner. This part was omitted in the final print and the title "Moon Over Manhattan" substituted because it conveyed the idea in a less obvious and more effective way.

Language is as full of slogans and similes as a fruit cake with raisins. Catchwords are a verbal shorthand. By repetition, they become "grooved," like an old bowling alley. The use of slang and slogans gets your meaning over, "right on the nose." If you say to your wife, "I just got paid, let's go out and shoot the works," she understands more quickly than when you say, "I'm in the mood for a little pecuniary extravagance."

On this page you see three varied subjects. At the top is an attempt at photographic representation of the old parable of the "Square Peg in a Round Hole." This is the easiest kind of material to handle. Some day, someone may illustrate the Bible and other books in this fashion.

Second, "Blowing off steam" is a simile which could be completed by showing a man (or woman!) speaking his mind.

"Pipe Dream," bottom, is an example of an attempt to express an idea. One subject was photographed on two negatives. The latter were then placed together, emulsion sides facing each other, and printed as a single negative. The pipe smoker was kept in low key, being in the background, while the smoke-blower, or other half, was given greater contrast. This is an example of combination print-





● "Smooth as a baby's behind." Used to suggest how your face feels after shaving with a certain electric razor. This dramatic advertising campaign won sudden and continued success because the slogan was adequately expressed photographically.

ing such as frequently is resorted to for effective representation of ideas.

Now if a picture is worth a thousand words, and a slogan is certainly worth a couple of dozen words, how valuable must be a picture of a slogan?

Advertisers are wise to this. Open a magazine to the advertisements and you will be amazed at the number of advertisements which employ slang catchwords or slogans—with the appropriate photograph. And sometimes the photograph is used by itself to convey the idea. An insurance company conveys the idea of security by showing a photograph of the Rock of Gibraltar; or a child's hand lying in the big mitt of its father. A loan company advertisement carries the line "A stitch in time," over the photograph of a mother sewing the seat of her youngster's trousers.

Why this peculiar fascination of the advertiser for catch phrases and key words? The reason is simple. There is no more effective way to put your message across than with an idea-picture— if you get the right picture.

An interesting example is the experience of an electric shaver company which was spending thousands of dollars to put over an electric razor, only to hit a snag. The rumor had gotten around that electric razors didn't give as smooth a shave as the manual kind. To quash this idea, something had to be done in dramatic, striking fashion.

The company's advertising agency finally dug up the simile, "As smooth as a baby's backside." But it was impotent without a photograph. Hundreds of pictures of babies were considered. Finally they had one made, and used it in an advertisement in which the picture of the baby's backside took up the whole page, the only copy being, "This is how your face will feel when you use our Shaver." The response was immediate. Wherever one went he heard people ask, "Did you see that advertisement with a photograph of a baby's behind?"

A more complicated situation brought about an interesting use of the phrase, "Baby needs a pair of shoes." A manufacturer of baby food products had been having trouble getting across the idea to druggists that they had nothing to gain by cutting prices on patent baby food. While wondering how to express this strongly, the manufacturer found in his mail one day (so the story goes) a pair of badly-worn baby's shoes. They were sent by a druggist to prove that price-cutting retailers were ruining his business

PHOTOGRAPHIC IDEA CONTEST

\$10 Per Print

Ideas, slogans, parables, figures of speech—the opportunities for symbolic photography are endless. Make your own and send them in to MINICAM's Photographic Idea Contest, 22 E. 12th St., Cincinnati, Ohio.

For each entry reproduced in MINICAM, \$10 will be paid. Prints should be unmounted, not smaller than about 4 x 5.

For more information on this and other contests, see "Minicam's Contests" on page 76.



● "Bird in the Hand" by Alan Leslie. From Fourth International Exhibit.

and depriving his kid of badly-needed footwear.

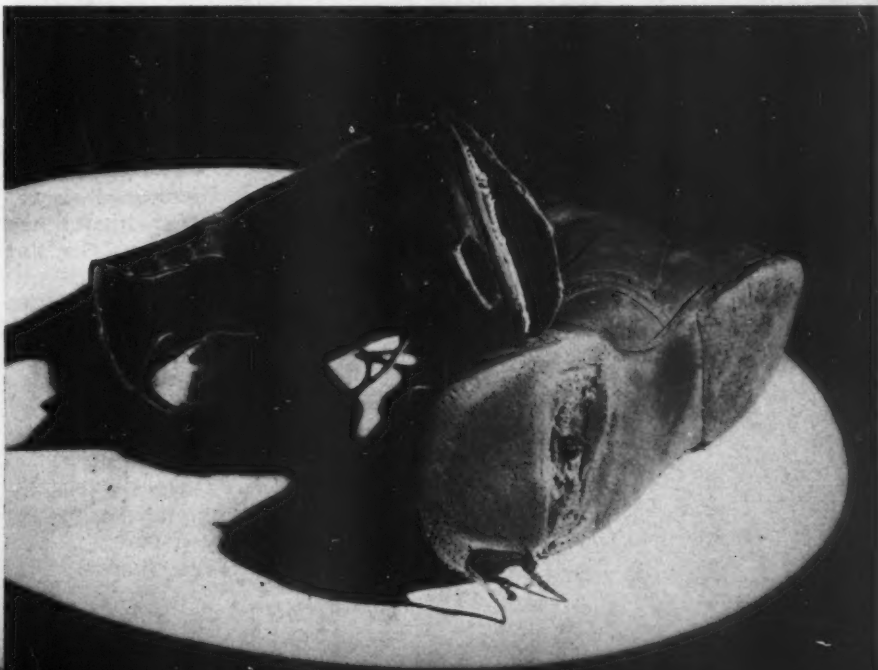
The baby shoes were photographed and featured in an advertisement that created a sensation in the drug trade.

You don't have to be a professional photographer to illustrate ideas and slogans. All you have to do is to make up

a list of suggestions and wind up your camera shutter. Strike a good idea, and you may be able to sell it to an enterprising advertiser. Even if you don't, you will have a lot of fun.

Advertisers are particularly fond of using certain key words whose implications are thoroughly familiar to all readers.

● "Baby Needs a Pair of Shoes." Idea used by a baby food manufacturer.



Such words are: Pressure, Power, Drive, Timing, Action, Influence, Silence, Co-operation, etc. Illustrating such words with your camera calls for plenty of ingenuity. For instance, how would you illustrate power? Would you take a close-up of a dynamo, a football team's back-field, or perhaps a picture of a financier controlling the destiny of millions? What could you do with an assignment on Pressure? Would you choose a pneumatic drill, carving a subway out of rock, a tailor pressing your pants, or a wrestler forcing his opponent slowly to the mat with a punishing arm-lock?

Catch phrases offer even more to the imagination of the photographer than single words. How, for instance, would you illustrate "Behind the 8 Ball"? This is a favorite with advertisers and has been repeated time and again. You might take a picture of a pool table on which the om-

inous 8-ball occupies the center of the stage. Then the figure of a man is cut out and pasted up so the ball dwarfs the size of the man. Another treatment might be with a bowling ball, instead of the regular ivory. Put the bowling ball on the pool table and have your subject peer from behind it. The size of the ball will dwarf the man, but the use of the large ball will make re-photographing unnecessary. In this case, as it is difficult to get the two objects, one very close to the lens and the other perhaps six feet beyond, in focus, it is desirable to close down the lens as much as possible. To work in this fashion, the camera should be mounted on a tripod for a time exposure or flash bulbs used.

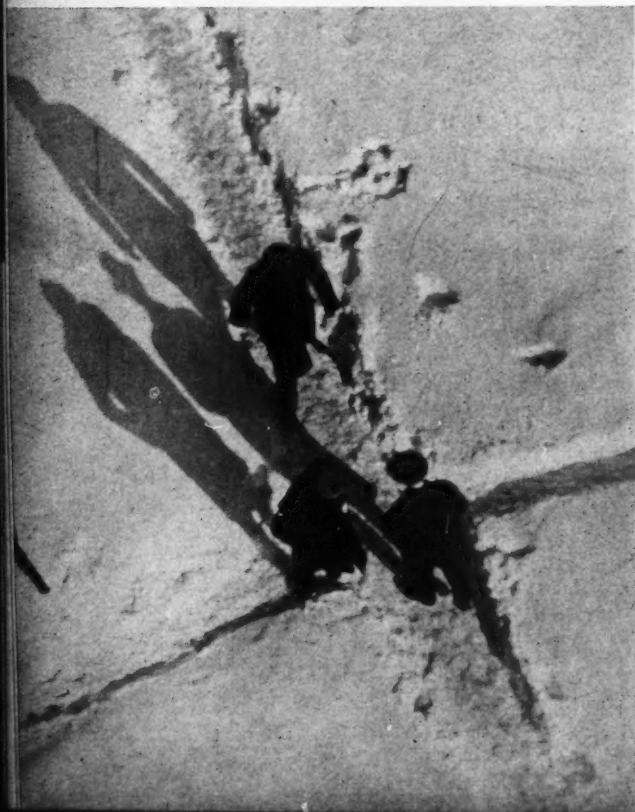
Another interesting situation to illustrate is that created by the phrase "ringing the bell." Would you treat this realistically or symbolically? Would you show a finger pushing the button of a door bell, or show a sexton pulling on the ropes of a

church bell or a country school-teacher calling her brood from lunch with an old cowbell? Or would you demonstrate some situation where someone has scored a "bullseye," which is the literal meaning of the phrase?

This type of illustration, photographing phrases, gives you an excellent opportunity for "home studio" work. One of the difficulties of this type of photography heretofore has been the question "What to photograph." Catch-phrases and slogans give you endless subject matter. You can now impress as models, anything from your best friend to the kitchen sink. This is a great chance for your wife to exhibit that dramatic ability. I had a friend of mine trying to portray "So What!" recently. At first he felt very

(Page 82, please)

● "At the cross roads." The dramatic angle and side lighting give depth of meaning and suggestiveness.



how to make enemies and alienate friends

A new (or old?) use for your super-candid camera

By Phillip Grenville

6 things this article will do for you are: 1. Cause you to lose friends. 2. Cause you to be ignored by your relatives. 3. Cause you to be withdrawn from all wills in which financial rewards have been promised you. 4. Cause you to be hated by beautiful women (if you're male) or by handsome men (if female). 5. Cause you to defend your rights in physical assault. 6. Cause you to wish you had never seen a candid camera.

An ancient Chinese philosopher (there's always one of them around) said that people who tell you the truth for your own good never tell you anything good about yourself. And the candid camera, because it is supposed to be so ruthlessly truthful, generally shows you nothing good about yourself.

Anyone who has read even one book of how to get along with people, knows that principle No. 1. is—flatter people. Tell them how charming they are. Laugh at their dull remarks. Insist you want to take a candid camera shot of them for your collection. Aunt Elsie for example, was flattered by this last. Why, naturally, she'd love to pose. What? She doesn't have to pose? Well, she'll pose anyway because she once had a Brownie and she knows you have to pose to get pictures. You jolly her along to get her to relax. However, she skillfully evades relaxing and you take some candid shots.

At this point, you are still good friends. Why shouldn't you be? You have lived up to every rule for getting along with people.

A week passes and Elsie drops in to



• Above, the author as he imagines he looks. Left. Posing with camera in front of mirror for a self-portrait, the shutter tripped accidentally. What the lens saw.



• When he finished scratching his ear, he threw his most fetching smile into space and—this is the self-portrait which convinced him he was a helluva swell-looking horse.



• Top: Aunt Elsie as she would like to look. Lower left, Elsie as revealed by the candid camera, about to sneeze. Right, Elsie balancing lemon cream pie on way to morth. Elsie has grown very cold, since seeing the lower "portrait studies," and talks about changing her will.

candid photography, the likes of which might have been seen before.

At this moment you bring out your "chef d'oeuvre," the "piece de resistance" as it were, real 14-carat candid stuff. (1) Elsie about to sneeze. (2) Elsie balancing lemon pie on the way to the digestive tract. It was all a lark—ha, ha, ha. But you did it on purpose, you rat. You've probably shown that outrageous thing to all your friends. She can hear them asking you—who is this? And then they all scream with laughter when you tell them it is Aunt Elsie!

As you show picture after picture, Auntie laughs less and less. If you have about a dozen photos, the last will provoke a cold stare and a hurried goodbye.

What have you done? You have broken principle No. 1. As a matter of fact, you have literally murdered her vanity. In effect, you have shown evidence to prove that she is not only homely but also inclined toward insanity, adenoids and enlargement of the nose. Any one of these three charges is enough to make a lifetime enemy. All three of them together lead to the forming of one of those beautiful hatreds which

have a look at the pictures you took.

In order, you have six shots. You watch her face as she looks from No. 1 to No. 2, etc. You watch the smile of anticipation slowly dwindle as she sees the photo of an uncalled for corpse, eyes wide open; lady falling backwards after being hit with a mallet; Exhale (mouth open); Schnozzola (nose out of focus); The Great Stone Face; and inmate being coy with asylum keeper.

You look over her shoulder. You laugh. She laughs—half-heartedly. After all these are but characteristic examples of

endure forever.

Relatives, particularly those relatives who have written you into their wills, should never be photographed. If they want any photos of themselves, tell them to go to a portrait photographer who makes a specialty of flattering his subjects.

You will discover, if you take candid camera shots of many people, that they actually think they look like the glorified portraits of themselves they have seen. About a week ago, a man I know showed me a portrait of himself. The deft and



- If proud parents demand you photograph their son and heir with your new 12-cylinder Super Plus, sneak into the bathroom while they're shining the brat up. Then unload your camera and for the rest of the evening in the parlor, click the shutter on an empty cartridge.

very expensive photographer had thrown my friend's double chin into the shadows, pulled a few little tricks with his receding hairline, illuminated a good point here and hid a bad point there. The re-

sult was a combination of good looks, dignity and serenity which my friend had never achieved in real life. But he told me that he did not consider the portrait flattering. However, he admitted, on be-



● Rosemary Ann as she exists in her soft-focus imagination and what she expects to see when she pleads for a portrait with your Super Candid Plus. Below is what you send her by dint of waiting until 3:30 a. m. of a New Year's eve, in a corner cafeteria.



ing pressed that the portrait came as near doing him justice as any that had been made.

This friend and almost all the other people I know like to believe the best about themselves, including the best that can be said for their looks. That's why, when they see honest, and sometimes ridiculous candid shots of themselves, they do their best to be sporting and laugh it off but secretly, they think that you and your camera are a pair of particularly nasty liars.

"But," you protest, "back in the old days when we took pictures with our brownies, no one was ever offended. Why, many of those pictures were much more unflattering than the worst that a candid camera can do."

Back in the old days when you levelled your brilliant \$1.95 worth of photographic machinery at a group of giggling people at a picnic, they didn't expect much. The worst was the general rule.

But when the customers nowadays see you turning the knobs, reading your light meter and debating about $f3.5$ at a three-hundredth they expect something to happen, something good. Why, the knobs alone should make it good. Then when the customers see what you have produced with your two hundred dollars' worth of photographic machinery, they are inclined to think that you are: a. stupid. b. deliberately insulting.

After all, no one could produce such bad pictures with such an excellent camera! Are you sure you turned all the knobs the right way? My legs never looked like that before. And look at Josephine. It looks like she has a hot potato in her mouth. Well, I don't know anything

● If a portrait is wanted, slip on a telephoto lens and take a closeup of your friend (soon to be "erst-while"). While admiring his or her profile, shoot an ear or schnozzola. A closeup of the heel is good if you can get it—before he throws it at you with his foot in it.



about focus but it does seem to me you must have gotten the film in backwards. My legs *never* looked like that.

An excellent way to find yourself paying for hotel bills in Reno is to take a lot of shots of your wife—millions of them, and then leave the prints strewn around where guests can find them and laugh themselves into an hysteria.

If ever you decide to flatter the boss by taking some candid camera shots of him, be sure to have another job lined up before you show the prints around.

I had a boss—once—who used to brag about his sense of humor. I tried to catch him off-guard when sneezing or eating pie, but was never quick enough on the trigger to get anything bad enough to show. At last, in desperation, I asked him to pose for a portrait. He fell for it hook, line and sinker. "What character," I said, "in that profile." Shamelessly, I slipped on a telephoto for a closeup of his ear.

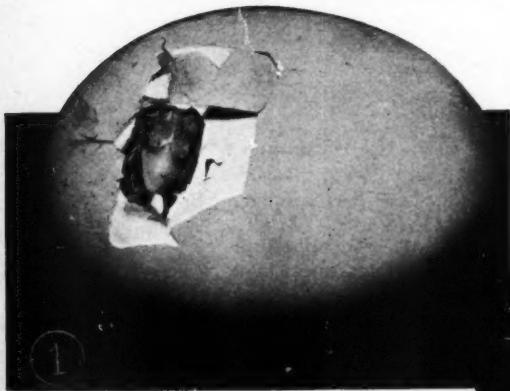
We really should stop here but we can't resist telling about one man who used a candid camera for self-portraiture. When they took him off to the asylum, he had such an inferiority complex he couldn't even look at the keepers. However, one of the inmates convinced him that while he might not be such a good-looking human being, he was a helluva swell looking horse. The last time we saw him, he was whinnying cheerfully.

He wasn't the author, you can be sure, as the author is shown in the photo at the head of this article—at least that's what he imagines he looks like—so don't pay any attention to the candid shots below it. Cameras lie—we hope.

Short-Short Story Contest

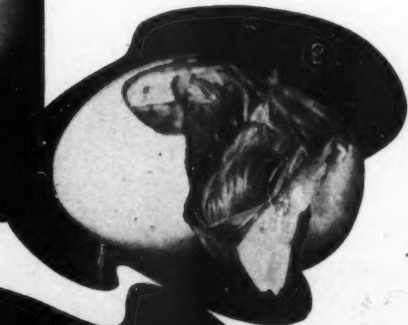
Announced in January MINICAM, the contest awarded \$15 to Maurice E. Kimmel, Du Quoin, Ill., for the following group of prints. They were cut out from 5 x 7 prints by a staff artist.

"A Chick Hatches"



1. After three weeks in an incubator at 92°, the chick cracks its shell. It does not "peck" its way out with its beak, but has a special appendage or horn for that purpose.

2. Long legs push until the egg shell collapses. The chick's "horn" falls off within a few days.



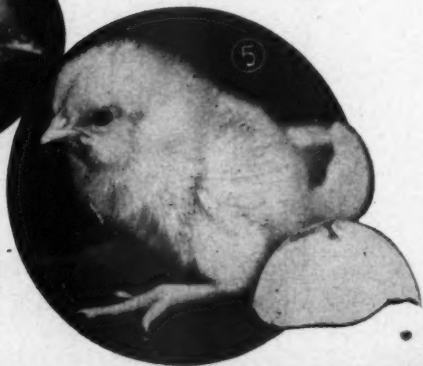
3. Tired but on his way. Hens whose eggs are to be used for incubation are mated with roosters. Infertile eggs, called "virgin" eggs, are commonly produced for table use.



4. That was hard work and he's resting now. When born the chicks are wet and limp. "Sexing" of chicks is done to assure cockerels (for broilers) or pullets (for egg raising).



5. Quite a change for ten minutes! As the chick dries off, his feathers become fluffy and soft. Freshly hatched chicks are frequently a pale, creamy yellow color. Some are almost white; others are a dull, soft black.

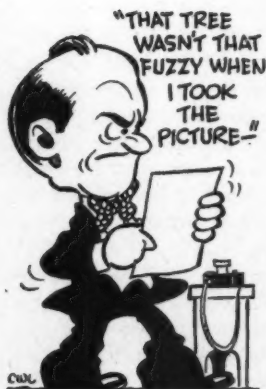


Beginner's BUGABOOS

or How to Banish Three Primary Faults

BY C. WARDEN LA ROE

Cartoons by the Author



MAKING pictures with a fair average of successes (which probably is slightly less than the majority of us hope for, and somewhat more than we achieve) is like being a wet nurse.

When you're bringing up the baby from birth to voting age—from exposure of the negative to mounting of the finished print—how wrong things can go if you don't exercise care!

Photography is a compilation of clever approximations. Approximately accurate focusing. Approximately correct negative exposure. Approximately adequate development for the exposure you have given. And approximately unmarked and dustless negatives in the enlarger, and so on.

Since it all starts with the actual shutter-snapping, let's begin logically with the problem of sharp focus and see if we can't shelve, one by one and by simple, inexpensive tricks, the several rudimentary bugaboos which so often hinder successful miniature work.

For guess-focus photographers who are willing to sacrifice special effects to overall sharpness, a sensible plan is to guess as accurately as possible the distance from the camera to the nearest object to be included in the picture, set the camera at

twice this distance and stop down until everything is sharp from object to infinity.

Suppose, for example, that you are using a Leica or Argus, etc., with a 50-millimeter lens, and taking a picture wherein the nearest object is 4 yards from your camera. First, set your focus scale to double this distance, or 8 yards. Then divide this distance (8) into the focal length of your lens—or 50. The answer is $6\frac{1}{4}$, the approximate *f* aperture to which you must stop down to have everything from the nearest object to infinity sharply in focus. In this case, *f*6.3 would do nicely. The foreground, of course, will not be in focus.

Now that your camera is focused, what exposure? Leave it to an exposure meter, if you own one and have it with you. Or spend a minute or two with an exposure calculator—also if. But when you are without either, try this simple additive system which has been clocked with both cell-type and extinction meters and found satisfactorily accurate.

Assume a basic film speed, say that of Panatomic, a constant exposure of 1/50th second, and normal subjects in which lights and shadows are rather evenly distributed. To indicate these





three factors a basic number, 11, is used from which to figure. From 11 then is subtracted the figures representing the time of year and day, and type of light — whether brilliant, hazy, etc.

The figures assigned to indicate the months of the year I have had punched on the reverse side of my key chain tag January is 1, February is 2, etc. The factors (from 10 A. M. to 2 P. M.) for the months are:

(Months)	(Figure to Use)
6	0
4, 5, 7, 8.....	1
3, 9	2
2, 10	3
11, 12, 1.....	4

The second necessary table is exactly the same, except that in this case the factor or "figure to use" represents prevailing light conditions.

(Light Condition)	(Figure to Use)
Brilliant sunlight	0
Soft sunlight	1
Hazy	2
Dull	3
Overcast	4

Simple, impossible to forget, and easy to use! Just subtract the sum of the proper figures in the two tables from your basic number 11, and the result represents a *safe* aperture for a 1/50th second snap.

Thus, to photograph an average normal subject in hazy light in February, add 3 (the February factor) and 2 (the factor for hazy light). Subtract this sum, 5, from your basic number 11 and the result is 6, the smallest *f* aperture at which you should expect a well-exposed negative. When, in this case, the result does not quite coincide with the aperture markings on your lens, favor the longer exposure

and open to the next larger stop. Here it would be *f* 5.6. The shutter speed is assumed to be 1/50th of a second in all these calculations. If shutter speed is changed, the *f* opening will be changed accordingly.

Bear in mind that this system is for exposures of normal subjects during the peak light interval from 10 A. M. to 2 P. M. For *each* hour earlier or later than this period, compensate for diminished light by subtracting 1 from your final result. Thus, in the example given, for a picture taken at 8 A. M. or 4 P. M., subtract 2 from the final 6, which will give you an aperture of *f* 4. Compensation for light- or dark-foreground subjects may be made by halving or doubling the exposure. For a fast film—say, one twice the speed of Panatomic—correct by substituting 1/100th second as a constant shutter speed instead of 1/50th.

Enlargers generally use glass pressure plates—admittedly a good way to hold the negative flat. But when a negative is held in this manner for projection, *six* exposed surfaces can collect dust and lint and impair the quality of the projected print—i. e., two surfaces of the film, and two surfaces of each of the two glass pressure plates.

Do away with the pressure plates—at least over the portion of the negative exposed to the rays of the enlarging lamp—and you eliminate two-thirds of the danger from dust and lint.

I have found this very easy to do by substituting a celluloid frame for the glass pressure plates in my enlarger. Get two pieces of heavy celluloid the exact size of the glass pressure plates. Cut out of each celluloid plate an area exactly the size of your negative.

To cut out the celluloid, score both sides deeply with a sharp knife; then the piece can be punched out with the thumb. To make sure the edges of the cut-out section in both plates coincide, bind the two together with adhesive tape and trim the cut-out rectangle with a file.

Use the celluloid plates in your enlarger just as the glass plates were used.

Hands

By H. A. von Behr

PHOTOGRAPHS BY THE AUTHOR

I SELDOM paid attention to hands, until one day, about seven years ago. Near the close of the day, the bell rang and a tall girl came in. She looked around, her eyes darting among my pictures on the walls. There were many factory scenes, showing laborers at work, guiding cranes and attending hot furnaces from which molten metal flowed into big casting molds. These had been made during my career as a chemical engineer, and they showed plenty of heat, smoke and rough work. The young lady must have been about to say, "I must be on the wrong train!"

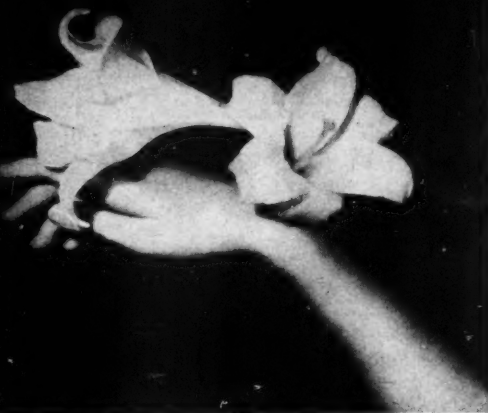
Since she already was in my studio, however, she was determined enough to tell me why she had come. "I am a model," she said, "would you care to take some pictures of my hands?"

I must confess that I felt just as surprised and uncomfortable as she did looking at my photographs of factory scenes. I could have agreed very quickly if she had continued, "I'm in the wrong place. You are not interested in delicate subjects like hands."

Hands to me at that time meant only something useful, necessary, a tool like hammers or pliers, but nothing to take pictures of. And while I was still thinking of a reply, a polite refusal, she took off her long black gloves, and there were the most beautiful pair of slender, white



- For cool, white, marble-like effects, use Pan film and overexpose your hand studies. With the candle towering above the long fingers, "Hands and Candle" creates a strong contrast against its black background. Dark nail polish was used.



● "Hand and Lilies". One hand was arranged with two lilies. The marble-white texture of the hand and that of the lilies, perfect companions, stand out in strong contrast against the black background. Light red nail polish photographs white with Pan film.

hands I had ever seen. That is how I started making pictures of hands.

I have made hundreds of hand pictures since, mostly beautiful, young hands at the beginning, and mostly of the hands which first inspired me. Today I still am convinced that her hands are the most beautiful of all. I have taken hands of many other models, of socially prominent people, of old and young, aristocratic and humble, wealthy and poor. Many of these pictures have been hung in homes as decorations, others were published and seen by people over the world. National advertisers have used them and presented them in artistic cosmetic and fashion advertisements, and many prizes have been awarded to me in photographic exhibitions.

I also have learned a lot about hands and I am rather ashamed of my confession stated above that at one time I thought of hands only as necessary human tools. They may be not only beautiful and interesting, but also decorative and

● Men's hands, well suited to the subject are arranged in a well balanced composition and express a mood —"The toast."



expressive. Hardly any other subject can display so many moods and so well.

What variety of emotion can be created by just a pair of hands. They do not have to be slender, young hands at all. Old and wrinkled ones may be richer in texture and expression. They have, like an old face, gained character in years, are stronger, and have more plastic appeal. Young hands, with their long, unbroken lines and gentle curves, lend themselves to harmonic designs of grace and beauty.

This is really nothing new; it has well been recognized all through art history by great masters. Go and see some of the famous paintings, new or old, and look for the great importance the hands have in those pictures. Hands alone have been subjects for masterpieces. There is the painting of the hands of a young woman by Rubens; hand by Holbein; hands of St. Nicholas holding a crown by Rafael; "Speaking Hands of Boy" by Dueres, and his famous "Praying Hands". I have just mentioned a few; there are many more.

Hands are not easy to draw or paint and for this reason many artists have given up the struggle and have dodged this subject. But with our medium, the camera, and with the right approach, we have no fear. It is not difficult to photograph hands. Almost any camera, any camera that will be good enough to produce a good portrait, can be used. I would, however, recommend a camera that has a long focus lens to give you correct drawing and perspective. For lighting, use one or two 500-watt lights or photofloods. If your lens is of average focal length, do not get too close to the subject, or you will get your hands out of proportion. A portrait attachment is a valuable accessory for this work.

A few words should be said as to the proper film. Filters are not necessary, but a diffusion disk is at times advisable. This is up to your own taste and technique. I would advise the use of panchromatic films, especially if your subject has youthful hands. Here it is also necessary to pay some attention to the color of the nail polish. Panchromatic film will make

red nails appear lighter; and, unless you want a light color, the polish should be a fairly dark red.

A light red polish used with a panchromatic film reproduces almost white. The dark, almost brown, nail polish shows up as snappy black and white. All the photographs shown here were made with panchromatic films, except "Sewing Hands" for which orthochromatic film was used. In pictures of old hands, or men's hands, you want to bring out texture, wrinkles, and tones. Panchromatic films, especially the faster ones, don't render skin textures. They make your subject appear pale and smooth.

As for exposure, if you desire texture and modeling, underexpose slightly and develop for the normal time. You want texture and modeling with most hand studies, particularly with old hands, working hands, and men's hands. However, if you want to create cool, white, marble-like effects for slender, white hands, overexpose slightly and give full development.

My preference in printing paper is for a smooth white surface for youthful hands. Old hands and working hands, I prefer to print on a buff stock, the tone of which approaches the true color of the human skin texture.

These pictures all were made with artificial light. There is no reason, however, why the same effect cannot be obtained with daylight and outdoors. I would avoid bright sunlight or spotty light and would take my pictures in the shade to obtain a quiet, even illumination. Avoid

strong highlights outdoors as well as in the studio.

As every man has his own technique, I would not be surprised if you produced excellent pictures by methods opposite from mine. Try new approaches and technique, this is my ad-



• As this is a portrait study of hands rather than a face, the latter is subordinated and the marble white wrists and fingers hold the center of the stage. Grace and delicacy is expressed in "Hands and Veil."

vice to everyone, including myself. The pioneer spirit is what gets results in the new field of photography.

I want to lead your attention to a fascinating subject, one you may never have thought of, because I myself had to be



● Tulip, leaves and dark nails make a pleasant composition with long, slender hands.

led to it. I hope that you, too, will find hands interesting and full of possibilities.

It is not difficult to find a model. Your friends will be glad to pose. You don't even have to take much of their time. Study their hands at every-day pursuits and plan your picture right there. Catch them while they are active or relaxed, playing or working, sewing, knitting, reading, stuffing a pipe, or holding a hammer. Also consider hands of children at play, eating an apple or grasping a glass of milk. Keep your eyes open and you will find graceful women's hands among your acquaintances, which in themselves are enough inspiration for composition. As is so important for all pictorial work, make your center of interest, in this case the hands, a real center of interest. To do this it is important to eliminate all distractions.

First, select a suitable background. As you can see by the accompanying illustrations, I prefer a black background against which the hands stand out. A light grey or white background also would be suitable, providing the tone of the background was several shades lighter than the lightest tone in the hands. Otherwise hands and background will merge into a monotone.

For example, look at "The Toast" on page 28. A light-colored background was used, but it was spot-lighted in such fashion—as you will notice—that the hands are seen against black parts of the background and only the beer

mugs, being dark in tone, are seen against light parts of the background. This assured adequate contrast.

The result is a photograph which emphasizes not so much the hands, as what they are doing. Perhaps a combination of the two points may be seen below in "Sewing Hands". Here both the action—drawing the needle—and the fingers—modelled by the light—are emphasized.

Compare with the decorative hands in the earlier illustrations. There neither action nor texture is important and the aim is for the cold perfection of fine, marble statuary.

Nevertheless, hands doing things always will be good subjects for possible sale to advertising agencies, newspapers and magazines.

Such hand pictures, however, are more utilitarian than artistic. Hands may be interesting decorative and expressive. They do not have to be useful. This is my philosophy and when I desire a pictorial print, I emphasize not what the hands are doing, but the hands themselves, what they are.

● For texture and modeling with hands that are male, working or old, use orthochromatic film and underexpose slightly. In "Sewing Hands" fingers with character as well as gentleness guide the thin metallic needle. The thimble is an important part of the composition leading the eye to the center of interest.





The Figure

By Alfred Cheney Johnston

PHOTOGRAPHS BY THE AUTHOR

The author of "Enchanting Beauty" here describes how he poses, lights, arranges and photographs his characteristic figure studies.

THE nude figure is a difficult photographic subject because it does not lend itself readily to arrangement by the photographer unless he knows in advance what pose or effect to strive for. The average figure study when printed, becomes a snapshot of an embarrassed lady without clothes.

The use of veils, drapes, chairs, backgrounds or other stage props, instead of relieving the situation only accentuates it. This is partly because of mental associations with so-called French art made up of suggestive boudoir scenes in which veils serve to draw attention to details they are supposed to conceal.

As a result, draped studies are the most likely to result in suggestive photographs and therefore they are the most difficult to arrange for composition.

I like to tackle difficult subjects and going against the rules. When I use props, as in Fig. 3 and Fig. 4, for example, the results are successful, I believe. They are artistic compositions and what I set out to design.

It is all a matter of technique, not morals. A slight error in posing, the inclusion of superfluous or inappropriate props or permitting the model to assume an expression or pose alien to the idea which the photographer seeks to portray, these are the things which may result in a suggestive or offensive picture.



Fig. 2

• A composition conceived to refute the contention that backgrounds for figure studies must be of neutral hue. The circular arrangement was planned, not on the enlarging easel, but while posing the model.

Another fetish concerns backgrounds. They should be neutral in tone, say the purists. It is true that in most figure studies the background is a monotone as in Fig. 3, or at least subordinated by being held out of focus.

Not being content with this rule, however, I conceived a composition in which the background, in the classical motif, should be an important part of the composition. The result was Fig. 2. This study illustrates also the value of conceiving a photograph before it is shot.

The circular composition was worked out in advance before beginning to work with the model. The amount of figure to show in the circle, the arrangement of the draperies and the columns in the background were carefully planned in advance.

One should give time and thought to working out compositions in his mind's eye so that when he starts to expose he will know what he is trying to get. Too

← "Malt Mirage."

Fig. 1.

• A double exposure on one negative. This also may be effected by printing two negatives on one sheet of paper. The pose of the model was arranged to fit into the beer glass.



Fig. 3.

- The drapery accents the figure's curves. Falling from the shoulder in a graceful sweep it brings the eye to the fingers and mirror; then to the subject's face, it completes a circle of attention.

many men just begin to pose the model without any definite arrangement in mind, trusting to luck. You will run a greater chance of having a good composition by planning than by shooting first then trying to see how you can crop it to make a picture.

The glass in Fig. 1. was photographed first, against a black background, and the two girls, also on a black background, were photographed on the same film. Each was slightly underexposed. The result depends entirely on accurate judgment of exposure time.

The use of drapery and other objects to help make a good composition is shown in Fig. 3. Notice that the drapery, falling from the shoulder, brings the eye around in a pleasing line to the mirror and the head.

In making a photograph of this kind one must explain to the model what is wanted and have her try it several times until she is rather used to the pose and has found how to keep her balance. While she is doing this get your camera in place and lights set. Then have the model try it again. Take several shots when she doesn't know you are doing so.

It was taken with a Zeiss Ikon, $1\frac{1}{2}$ by $2\frac{1}{4}$. Two lights were used, one for the flat general light and a spot. I like sim-

ple lightings best and a negative that is dense enough to give rich tones. Simple lighting brings out all the modeling and tone desired.

Fig. 4 is somewhat different. Dramatic lighting was used with the model in a pose where relaxation was the theme. Correct position of feet and legs were very important, the pointing toe giving graceful line and length to the figure. Important also was the correct angle of the musical instrument. The carefully posed arms, hands, and fingers are all very vital parts of the picture. If any of these problems should fail to be correctly handled, the picture would

not succeed as a pictorial composition.

The artistic point of view is important for an understanding of composition and values of light and shade. The camera can only take what it sees. Lighting, pose, expression of the model, etc., are the job of the man behind the camera.

There are many methods of making artistic prints such as working on the negative, making a paper negative, combining two or more negatives into one print; gum or bromoil printing and enlarging tricks that will give artistic and novel effects. I believe in such devices only when they produce a desired effect.

The photographs illustrating this article were made without relying on any manipulation and are within the range of anyone with a camera and roll of film.

- Fig. 4.
● The introduction of props and dramatic lighting made this a difficult subject. Feet, legs and pointing toes give graceful line and length to the figure. Arms, hands and fingers as well as the angle of the musical instrument are vital parts of the composition.



Playing With Pattern

By Samuel Grierson

PHOTOGRAPHS BY THE AUTHOR

*Pattern is one of the most fascinating things in photography.
It is an all-year, all-weather subject and there
is no end to its possibilities.*

EVERY photograph is a pattern, an arrangement of blacks and whites. When tones are placed so as to repeat themselves, the picture may become a design. *Repetition*—of line and mass—then is the first characteristic of a design picture.

Pure pattern tends to carry one step further the orderly arrangement of objects

seen in an effective still life or landscape.

Merely throwing a bunch of toothpicks or piston rings on a table will not create a pattern picture unless the resulting composition conforms to the principles of pictorialism, the first necessity of which is for a *center of interest*.

In the case of a street scene or landscape, the removal of the center of interest

• "Jazz Notes" was made with a portrait attachment over the lens, the camera placed to obtain perspective and enlargement of the foreground keys. Fig. 1



destroys the entire plan and, very likely, the entire picture.

In pure pattern, the removal of any object in the picture destroys the design. For example, in "Rhythmic Shadows" (Fig. 4), a break in the fence would certainly destroy the effect. You might still have a picture, but it no longer would be a pattern.

Indoors, every room from kitchen to parlor is full of pattern possibilities. "Jazz Notes" (Fig. 1) was made with artificial light. It was made with an old type 4 by 5 instrument picked up second-hand for five dollars. The ancient camera was as big as an 8 by 10. Despite the size, it had no extension bellows so I had to use a portrait attachment over the lens.

Piano keys are built for pattern pictures so the subject was easy. I used a 100 watt light in a tarnished reflector. Brilliant lights eat up shadows. For some pictures, I use a mere 25-watt bulb. An exposure of two minutes at *f*22 on Eastman Commercial Pan cut film was made and developed in A-B-C Pyro. The print, which has been accepted in five international salons, was made on P.M.C. 2, toned sepia.

Designs challenge those who complain that there is nothing worth making a picture of in their immediate locality. It saves trips to far off places in search of camera subjects.

"Angles" (Fig. 2) was made without forethought and without the aid of artificial light. The stairs are in a public building and, descending them, I felt interested in the angles formed by the steps, the hand rails, etc. I had my camera but no tripod. The light was none too good but I decided to take a chance. Bracing myself in a corner, holding myself stiff, and holding my breath, I made an exposure of one-fifth second at *f*16. I got my picture as you can see and it turned out to be one of my favorites. It still gives me the same feeling of mystery that comes over me when I see a painting by the great sur-realist, Dali or a drawing by



ANGLES

● Repetition, the first necessity in successful design pictures, is less obvious here than in Fig. 1. The angles in the steps and hand rails, together with foreshortening perspective, give the effect of descending rhythms in a sur-realist painting.

Fig. 2

Gustave Dore though I am the first to admit that the print is as nothing in comparison to the work of either of these men.

I used an Ihagee 2¼ by 3¼, S. S. Pan cut film, developed in D-76, and made a print on Agfa Brovira Velvet. It has never been exhibited.

"Fantasy" (Fig. 3) is a picture which grew on me, so to speak. For weeks I noticed the sun falling upon the bars of the fire escape at my bedroom window. Morning after morning I looked at the various patterns forming and changing with the movement of the light and I knew in my heart that here certainly was a pattern picture. Unintentional and unexpected help was given by the landlord who decided to paint the fire escape. With fresh paint on the ironwork, the lights and shadows stood out with intensity.

Because of the angle of the lens and the width of the window, I was forced to include more on the negative than I wanted in the final picture. "Fantasy"

is not the result of composition in the darkroom, for I knew definitely when I took the picture just how much I would use. A print made from the full negative is presented here to show what was eliminated.

It was made with the camera on a tripod, and composed on the ground glass. Bulb exposure was $f22$ on S. S. Pan developed in D-76.

This picture was hung in the London Salon of 1936, the 13th Annual Midland Counties Salon, England, and in the Boston Salon, 1936—three outstanding shows—in addition to a number of other well known salons.

I mention salon records because many people are apt to feel that pattern pictures would be rejected and I point out the records of these prints to show that such is not the case.

Fig. 4, like Fig. 2, was made on

- The author waited for weeks to capture this design. Only after it was freshly painted, however, did the ironwork furnish the desired pattern. Below is a print of the whole negative before cropping.

FANTASY Fig. 3

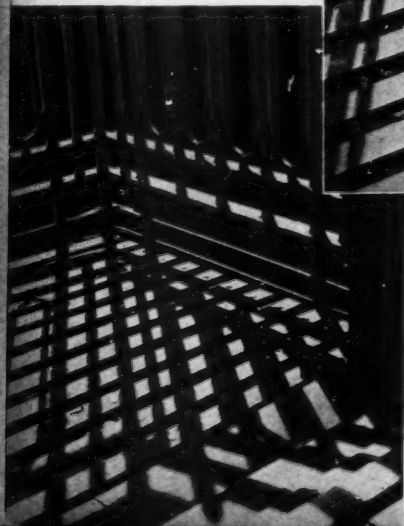
the spur of the moment. I was on a jaunt about town with another pictorialist in search of pictures. Walking along a path in Riverside Park, I noticed this new, low fence put up to protect the grass. As my eye followed it I noted the curve of the long shadows and decided that it was a picture. My friend of this afternoon could see nothing in what I was taking.

He was looking for beautiful landscapes, harbor scenes, spring blossoms and the like; subjects which were pleasing to me also. However, while he was so engaged, I took "Rhythmic Shadows." This also was a case of a fresh paint job. The fence fairly sparkled in the sunlight. It was made in the late afternoon in November with a Rolleiflex held in the hand.



The exposure was $1/25$ th at $f 11$ on Panatomic, developed in Kodalk. The salon print was made on Brovira Velvet and has been included in the 100 Print Travel Salon of the Photographic Society of America for 1938, the first and only salon to date to which this print has been offered.

It might be well to mention that this sort of composition is done best with a ground glass focusing camera used with a tripod. If you can get your



composition exactly right at the time you make your exposure instead of composing on the enlarging easel it is more likely to be effective.

Make pictures which please you, and eventually you will make pictures which are pleasing to others. Sometimes, however, critical opinion will not coincide with your own.

Consider Fig. 5 and Fig. 6. The second does not please me as much as the first, and yet several pictorialists have rated these two prints in the opposite order.

I had "Flagstones" in mind for some weeks before I made the final exposure. I had watched the laborers lay the stones for a new path in the park and the more I looked at the stones being laid in place, the more I felt that there was indeed a picture. The odd and uneven shapes of the stones fascinated me and I studied the path and its various designs for weeks. At last, I exposed my film from the angle that pleased me the most, composing the picture in the small brilliant-view finder. To date this print has hung in three international salons.

"Pavement" (Fig. 6) was made of another part of the same path. It is an inferior treatment of pattern, I feel, as the large stones in the foreground are far too forceful in respect to the rest of the picture. Not everyone agrees with me on this point, however.

Patterns of light and shadows are interesting, but, with many subjects texture is important. That is why I stop down as far as possible. In the darkroom I give full development to both film and paper. At 65° F. I give S. S. Pan 20 minutes in D-76; 15 minutes in A-B-C Pyro; eight minutes in Kodalk. I expose the bromide paper with the enlarger stopped down to about $f22$. This gives me time to dodge if necessary and besides I feel, despite theories to the contrary, that it does



RHYTHMIC SHADOWS

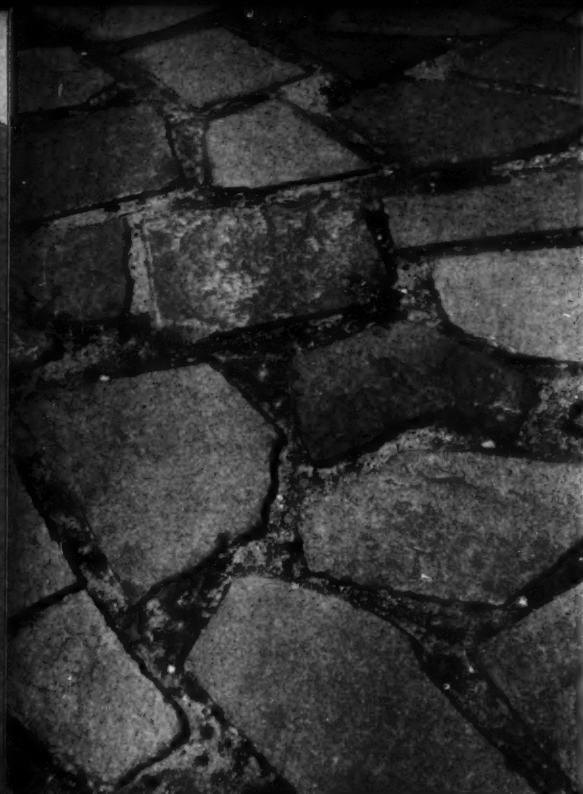
Fig. 4

● Another example in which proper angle of sun breaks or makes a design. This excellent composition was made on the spur of the moment without conscious planning.

sharpen the image. At least, stopping down at this point of the procedure will correct any slight errors in focusing. I make my exposure long enough so the print will take at least one and one-half minutes to develop and I prefer to have the time of development closer to two or three minutes.

By way of warning it may be said that texture is not desired when it is in the background, however.

You may ask if such subjects as are reproduced with this article are worth the effort of printing and developing. My answer is that if you feel a subject unworthy of attention forget it and continue to photograph what interests you. The creative photographer, the one who will eventually reach the top, does not consider rewards first and pictures second. He does not refuse to take a picture be-



FLAGSTONES

Fig. 5

- A small stop for maximum definition is desired in most design pictures as the elements of such a composition require that all parts be in focus. Exposure 1/25 at f16. Compare with Fig. 6 another treatment of the same walk.

cause he fears there is no immediate market or because it will not "get by" salon judges.

Pattern pictures need light and shadows. Never attempt them on a dreary, overcast day. Actual rain holds possibilities as wet subjects gain reflections.

Pattern can be made with the nude figure, or with the human face, or with material similar to the examples shown here. There is no end to the possibilities save in your imagination.

Most pattern pictures are likely to be taken on the spur of the moment when, as you pass a scene, sunlight, clouds or other details are just right. Sometimes, however, a photographer will literally camp on the doorstep of a subject until perfect conditions mature.

A third method is the one employed indoors when all details are subject to the

photographer's control. Then he can arrange subject and lighting to get exactly the desired effect. When working this way, "retakes" are possible (and often necessary), but the final result should be the least haphazard of all.

The fourth method is really a further stage of the other three. It involves composing on the enlarging easel. By cropping the print, dodging, tilting the easel, etc., many effects can be obtained from a single negative and an unpromising bit of emulsion may turn out a highly effective print.

Pattern pictures especially lend themselves to darkroom manipulation. Many a negative which appears to be of no earthly good may contain a bit of design that is only waiting to be enlarged, cropped, and composed into an exhibition print.



PAVEMENT

Fig. 6

- Dispute raged around the respective merits of the two pictures on this page.



How to Make Prints from Movie Film

It's great fun to have "stills" from your own movies to advertise a "home showing," or perhaps the "premiere" of that colossal epic you took of the baby or the vacation trip.

Prints from movie film may be made in the enlarger almost as easily as prints from minicam negatives.

There are two essential differences. (1) The movie film is smaller than any still camera negative. (2) With the movie film, you start from a positive.

The 16 mm. film is approximately $\frac{1}{4}$ the area of a 35 mm. standard movie frame or about $\frac{1}{8}$ the area of a 35 mm. minicam negative. Assuming the miniature camera negative can be enlarged to cover a space of 80 square inches without difficulty then the 16 mm. should stand an enlargement to at least 10 square inches. As the 16 mm. frame has the proportions of three to four the enlargement up to a print size of three by four inches would give 12 square inches of area, which is reasonably within the limits indicated. To do this means that the frame will be enlarged approximately 10 diameters.

The 8 mm. frame is only about $\frac{1}{4}$ the size of the 16 mm. frame so that a 10 diameter enlargement would give a small picture approximately $1\frac{1}{2}$ by 2 inches, about the size of the old "vest pocket" camera negative. This is not very big but if the frame is very carefully selected, and the original 8 mm. film was a good one, the picture should be satisfactory at an enlargement of at least $2\frac{1}{4}$ by $3\frac{1}{4}$ inches.

The simplest way to make a still, of

course, is to put the film into your miniature camera enlarger and enlarge it just exactly as you would any miniature camera negative. The only departure from standard practice in this case is the fact that the 16 mm. is already a positive. Fortunately this positive has extremely fine grain so the problem of grain is not as great as it might otherwise be. The enlargement may be made upon direct positive paper. (Direct positive paper is a standard product and may be obtained from your dealer). Even Kodachrome film sometimes gives a satisfactory enlargement upon direct positive paper. As paper is color-blind, however, color film should be enlarged onto a panchromatic negative. From this negative the enlargement will be made.

The first step, select the desired frames

- When enlarging onto film, it is necessary to cover the enlarger to prevent light leaks. The cover should preferably be of dark cloth. Test it by turning on the enlarger in total darkness. If light escapes, it will fog the film while you are enlarging on it. Arrange cover until no light escapes.



for enlargement. Examine all of that part of the film which contains the action you desire to record as a still. It is better to do this with a magnifier or a film viewer as the projector operates too rapidly for

the examination to be done in actual projecting. Many amateurs who have not had occasion to examine their motion picture film closely will be surprised to find a considerable amount of blur in almost every frame. This makes it necessary to examine the film with the utmost care, because obviously a blurred original cannot possibly make an acceptable print.

When the desired frame has been found a mask should be made with an aperture just large enough for the frame and the miniature enlarger used for making the projection print. When a negative is desired from a black and white motion picture film the enlargement should be made upon Process film. (For Kodachrome originals, Process Panchromatic is recommended). The determination of exposure and the entire routine is handled exactly as in the case of making paper prints.

When working with process film, a red safelight may be used, but with panchromatic film, you will work in total darkness. As the lamphouse of enlargers are not light-tight, it will be necessary to throw a black cloth over the top of the enlarger. The correct exposure will be a fraction of a second.

When the proper exposure has been determined the negatives can then be made in rapid succession. The entire laboratory technique is the same as for any enlarging except that the developer for the negatives should be:

Metol	15 grains
Sodium sulphite	2 1/2 ounces
Hydrochinon	130 grains
Sodium carbonate	360 grains
Potassium bromide	70 grains
Water, u.s.	32 ounces

The projections should be so timed that they will develop to full density in this developer in three minutes at a temperature of 70 degrees. It must be remembered that these are to be negatives, which means that they must be carried to *full* density so that even in the thinnest shadow there is a certain amount of silver deposit. One of the most difficult facts to learn about making duplicate negatives is to get them deeply enough developed; a thin,

weak image can not give a good paper positive.

The films are fixed, washed and dried in the usual way and from them the paper enlargement is obtained.

The argument is usually offered that by using care a 35 mm. negative may be enlarged to 16 by 20 inches, which after all is only a 16 diameter enlargement. As a matter of fact it is comparatively rare to find a miniature camera negative on 35 mm. film which would give a really good print of this size. If the 16 mm. frame is enlarged 16 diameters, the print size would be somewhat less than 5 by 7 inches while the 8 mm. would be about 2 1/4 by 3 1/4. This perhaps is the true reason why so many amateurs have failed in making 16 mm. enlargements. When you consider that when making a 8 by 10 print from a 16 mm. frame is equivalent to making a 2 by 3 foot enlargement on an ordinary miniature camera negative the difficulties can be appreciated.

Another thing which too often is forgotten is the fact that the motion picture camera operating at normal speed gives an exposure of 1/50th of a second or slower. We also know that when we expect to make very high ratio enlargements from the miniature camera we either use a high shutter speed or use a tripod, or we do both. Not only is the speed of the motion picture camera too slow for most subjects, but as it has already been stated this speed is so slow that many objects show a very definite blur. This is not visible on the motion picture screen because we do not normally see moving objects sharply, although we think that we do. When the film is projected on the screen our eyes are deceived just as they are in real life. This is due to what physicists call "persistence of vision."

The main troubles, then, in making stills from motion picture film are caused by failure to select adequately sharp frames and attempts to make excessive enlargements. Begin by selecting a frame in which the image is sharp when enlarged; and from 16mm. film, be satisfied with 3 1/4 x 4 1/4 or 4 x 5-inch prints.

"Shooting" the Screen

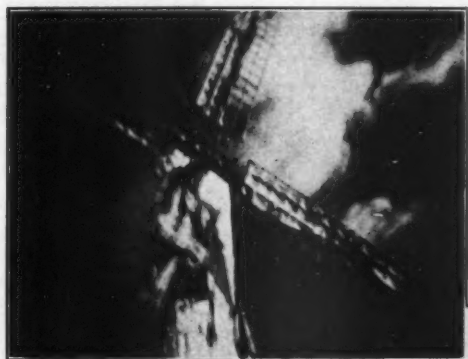
Take Your Minicam to the Movies

NOW it's "movie performance" pictures. Snapping stills from the silver screen during the course of a motion picture run has become a professional assignment although, like many other innovations in professional photography, it started purely as an idle hobby a few years back in the minicam era. Borrow-

film and your lens at maximum opening.

On a standard movie screen, 24 pictures are projected per second. This means there is a blank space between pictures. If your shutter is set for 1/50th or faster, you may catch only one of these black spaces or perhaps a moving frame. For this reason, it is a good idea to use a shutter speed of about 1/10th so as to catch more than one movie frame. For slow speeds, you will have to rest your camera on the seat before you—providing it's not occupied.

The best vantage point for shooting the movies is directly in front of the screen since the subject, physically



● Screen shooting, unlike stage photography, offers excellent opportunities for closeups.

ing the cue from stage performance photography, a minicam field of long standing in which many professionals have made fine reputations for themselves, the movie performance shooters bid fair to duplicate the success of their "legitimate" brethren.

As in stage work, the amateur has practically the same opportunities to take pictures as the professional. An ultra fast lens is not necessary. Shutter speeds may range from 1/5th of a second to about 1/50. Most shots will probably be made at 1/25th, which is the slowest shutter speed practical when holding the camera in the hand.

It is not possible to name a standard exposure as the amount of screen illumination varies with the theatre. Use pan



speaking, is a plane and therefore can afford no opportunity for up, down or oblique angles, as in stage photography. If you sit in the orchestra, select a place a few rows back from the screen so as to permit you to hold the camera fairly level. This tilt, however, will not prove bothersome, in most cases, as it can easily be corrected under the enlarger, by avoiding

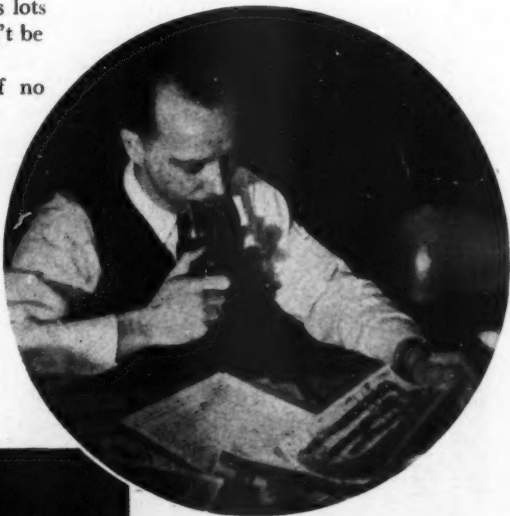
(Page 67, please)

In An Editor's Office

"Life-and-Death" Struggle, or story of Men
Worrying a Manuscript

STORY-TELLING with pictures is lots of fun and your characters needn't be actors, either.

Just let them act naturally, as if no camera were around. We know it's not so easy as it sounds, but it's been done and can be done again. Take the example illustrating this little piece. The cast of characters comprises A. P. Peck, Associate Editor, and F. D. McHugh, Managing Editor, of *Scientific American*, and the drama depicted revolves around the life-and-death struggle between a manuscript and a couple of hard-boiled editors.



● Picking up an article submitted by a photography expert, the editor sighs pleasantly and puffs his pipe.

● Striking a snag, he drops the pipe and goes over the material word by word.

● Enter the managing editor, "What's the trouble?"



A casual visitor barged into Editor Peck's office one afternoon, stuck a Photoflood bulb into a desk lamp, climbed on a desk and unceremoniously shot away at the editor with a Contax equipped with the Sonnar f1.5 lens wide open at 1/25 of a second. Later, Managing Editor McHugh walked in and there was more shooting.

→ In this particular case, the sub-





● But two heads are no better than one. The M. E. chews his moustache and the Ed., not knowing what else to do, gnaws his pipe stem.

● "On the one hand—but on the other hand—it's a good story—but—"

jects were actually working, and no bluff, except for the last shot shown in the illustrations and maybe one or two others obligingly posed by the camera-weary editors who hoped by this acquiescence to get rid of their disturbing visitor.

In a similar manner, you can photograph a couple of cronies discussing something or other over a glass of beer, or a couple of youngsters quietly playing a game or any other human or animal subject in which there is a story element that could be made into a picture series.

It is not impossible to make a picture series in the "candid" manner without exciting the awareness of the subject or subjects, but in many cases it will be necessary to persuade the subjects to enlist in the photographer's project.



● Well, either the editor or the manuscript had to end up there!



PHOTOGRAPHING ELECTRICITY

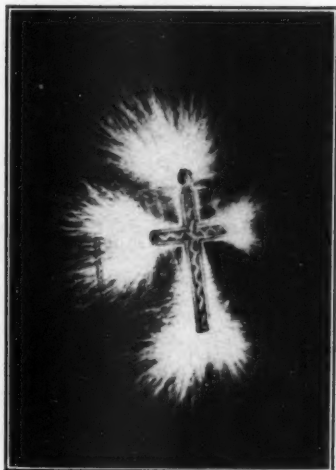
Without Light

NO one knows what electricity is, but now it has been possible to photograph an electric current, or at least its effect.

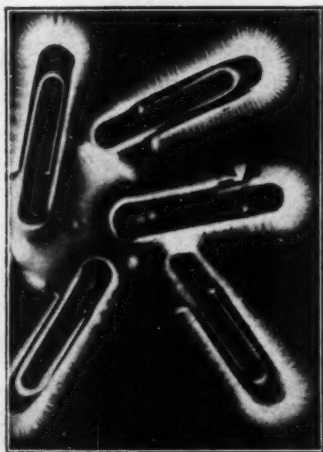
It is commonly understood that the camera sees the world quite differently than the human eye. Photographic film is sensitive to radiations to which the eye does not respond—such as infra red, ultra violet, X-rays, radium rays, etc.

One can, however, go still a step farther and take pictures with neither camera nor light. This can be done by utilizing electric current directly on the silver bromide emulsion of the film.

Electricity can be photographed, as the following simple experiment will prove. Take two coins and put them on a piece of film (of course this is done in a dark-room) in such a manner that there is no contact between the two coins. Then connect each coin with one of the poles of an electric battery and leave connected for



● When the positive pole of the high voltage is connected to the subject, the emanations photographed look like violent flashes.



● The negative pole causes deposition of a regular form, perhaps like fine hairs. Note that the emanations are relatively less from the inner loop of the clips as this part is shielded by the outer loop.

about four days. Then develop the film and there will appear the pictures of the coins. No image will appear if the coins are not connected to the battery.

The next experiment requires the use of a high voltage current, and produced the pictures shown on this page.

The apparatus is quite simple. A thick glass or marble plate is placed on a table. A piece of tin is placed on the glass, and on the glass the photographic film, emulsion side up. The object to be photographed, which must consist either of metal, or be enveloped in metal, is placed on the film.

The tin plate is connected with one pole of the high tension electric current, and the object to be photographed connected to the other pole. The current is switched on for several minutes, and then the film is developed as usual.

"FAST" DEVELOPING

Trying D-72 for Maximum Film Speed

D-72 a minicam developer? "Impossible, for it is definitely a paper developer and contains enough sodium carbonate to blast grain to the size of hens' eggs," you exclaim. "Perhaps you have sniffed just about one dose of hypo too much."

Confronted one day with the desire of seeing the results of 16 exposures on a 127 size film and having exhausted the old standby D-76, I decided to try the merits, if any, of D-72. Not, of course, without considerable misgiving and skepticism. For there on the horizon King Grain loomed large and menacing. Nor was I overlooking such factors as quality of highlights, shadow detail, etc.

Consoling myself with the virtue of the fact that one learns only by experiment, for tray-development I mixed one ounce of solution to one of water, and with a temperature of 65°, developed 5 minutes. The result on this first film while not wholly satisfactory was very encouraging. It indicated two things. First, using an exposure meter, all exposures must be halved. Second, indications of a high quality development were obvious and development must be kept on the thin side. Subsequent experiment proved this to be so.

With careful processing, maintaining a constant temperature of 65° and developing the negatives thin, for obvious reasons, and within reason, I have found it possible to produce glossy 8 x 10 and semi-matt 11 x 14 prints without any trace of grain. I have used either whole or part of 35 mm. and half vestpocket size negatives. If necessary I am sure I could go beyond the print sizes mentioned, although I have



● From an enlargement, 5x7, made from a minicam negative developed in D72. Despite the large area of middle tone in the sky, grain size was not excessive in this print.

never been compelled to do so.

What more can the average minicamist ask with respect to size? Not much unless he is a grain-fiend with a mania for super-colossal prints regardless as to whether or not his negatives merit super-colossal expense too.

While I do not advocate D-72 for a steady minicam negative diet, used indiscriminately it has its place, particularly under adverse light conditions. Those of us who can boast of a lens no faster than *f*3.5 or *f*4.5 and have been wondering how to land those difficult stage shots, not overlooking movie film shots too, if you are interested, open wide your diaphragms and shoot with exposures ranging from 1/25 to 1/100 for stage and 1/10 to 1/25 for movie film.

And if you process in D-72 you will be rewarded with results that virtually place you in that class which gets shots at *f* point nothing. The developer seems to possess that quality which gives the film that extra lift.—S. F. Ressler.

"Flash," the Cover's Shot!

How to Use Flash Lighting for Color Pictures

FLASH BULBS were used for shooting the cover on this issue of MINICAM. An outdoor, spring scene was wanted—but winter winds were still blowing when the photograph was made, so a studio shot was decided upon.

Flash lighting was needed for an instantaneous exposure to catch the movement of the spaniel. "Open" flash was used. All lights were turned out except a 25 watt lamp at some distance from the subjects. The shutter was put on "bulb." At the proper moment (1) shutter was opened (2) light switch pressed (3) shutter closed.

Open flash also can be used with shutter set at about 1/2 second. In such case, shutter is pressed, and light switched in the next fraction of an instant while shutter is open.

The reflectors, each loaded with a large No. 75 photoflash bulb, were placed in the following manner: six on the right side of the model as the main source of light and three on the left to act as backlights. The placing of the reflectors in such a way so as not to cast shadows on the background plus the concentration of the light source gave a feeling of sunlight. In order to heighten the illusion of being out of doors six electric fans were placed as close as possible to the model in such positions as to give a windblown effect to skirt, scarf and hair.

As can be seen from the photograph on this page, the background was a canvas painting and the foreground a grass mat.

As in all work done with flash lighting it was deemed advisable to take a number of shots and then select the best one. When all lights, except the dim 25-watt bulb, were turned off, the spaniel (who is an experienced model) assumed his work was done and started to run away. As a result, the first shot was ruined.

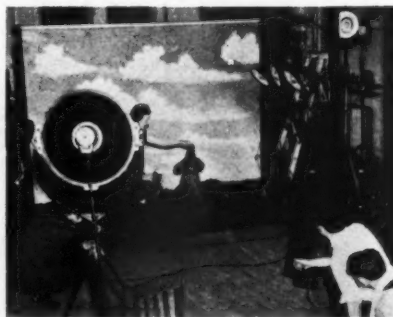
The next was not so hot, either, and Photographer Randt said something about "getting nowhere fast." He possibly referred to the flash bulbs being used up. With nine giant ones going at a time, the lighting cost per exposure ran about five bucks.

At this time, a visitor said that this being her first experience in a studio, she thought it very interesting. This chance remark resulted in an invitation from Mr. Randt to MINICAM readers interested in taking color pictures to visit his studio during the making of a picture.

The next shot was the one desired.

Exposure was nine No. 75 photoflash, at f/20. Dufaycolor film was used and developed immediately after exposure.

Below are exposure tables for taking color shots with flash lighting. Flash exposure tables



• Studio scene during the filming of MINICAM's cover, showing the use of a painted background. Taken with Superflash and Mendelsohn synchronizer.

for black and whites will appear in the next issue of MINICAM.

FLASH BULB EXPOSURE TABLES

Dufaycolor Film with 1A filter

Mazda Photoflash

Distances in feet, lamp to subject covered by 1 photoflash lamp in a good reflector.

Distances in feet from lamp to subject.

	f/2	f/3.5	f/4.5	f/5.6	f/6.3	f/8	f/11	f/16	f/22	f/32
No. 10.	38	22	17	14	12	10	7	5	3 1/2	..
No. 20.	54	31	24	20	18 1/2	14	10	7	5	3 1/2
No. 75.	100	58	45	37 1/2	31	26	18 1/2	13 1/2	9	6 1/2

These figures are based on room with medium colored walls and ceiling. Where pictures are made outdoors or under adverse wall and ceiling reflection conditions use the next larger diaphragm opening or reduce distance to about 70 percent of that shown.

	f/3.5	f/4.5	f/6.3	f/8	f/11	f/16
No. 20.....	25	17 1/2	14	10 1/2	7	5

• Average distance in feet, lamp to subject, covered by one Mazda Photoflash Lamp No. 20 in a good reflector when synchronized at 1/200th second. Dufaycolor with 1A filter:

Wabash Superflash with Dufaycolor

Quantity	Size	f/4.5
2	No. 1	4
1	No. 2	4
2	No. 2	6
4	No. 2	8
1	No. 3	8
2	No. 3	12

These tables may be used for "open and close" flashes and for synchronized flashes with shutter speeds of 1/25th or 1/50th sec. For shutter speed of 1/100th sec. use one stop larger opening; for 1/200th use two stops larger opening; for 1/500th use three full stops larger opening.

KODACHROME

Wabash Superflash bulbs

Distances in feet from lamp to subject:

Type A	Bulb Size											
	1/1.5	2	2.8	4	5.6	8	11	16	22	32	45	64
(Regular) with Kodachrome	1	40	28	20	14	10	7	5	3 1/2	2 1/2
Filter for Flood Bulb	2	68	48	34	24	17	12	8	6	4	3	...
	3	96	68	48	34	24	17	12	8	6	4	3

Table gives distances in feet from lamp to subject for "time" exposures with lamps in white cardboard reflectors. Without reflectors use next larger lens opening.

Leica, Contax, Exakta and other focal plane minicameras should be used only at 1/200th and 1/500th sec. for speed synchronizing.

For high speed shots at medium and long distances, the No. 3 Superflash is recommended in place of the No. 2; at 1/200th sec. the No. 3 may be used at same lens openings as called for the No. 2 in above table. At slow speeds use 1 1/2 stops smaller opening with the No. 3.

This table applies in average surroundings. In medium or small sized rooms with white walls and ceilings use one stop smaller opening; at night outdoors in the open, use one stop larger openings at distance of 16 feet or greater.

Free

Studio Demonstrations

Taking Color Pictures

Frank Randt, who photographed this month's color cover, will give a series of three free studio demonstrations this month on "How to Take Color Pictures."

You can bring your own camera loaded with Dufaycolor or other color film.

The demonstrations will take place in New York City on March 12, 17 and 28. A limited number of amateurs will be admitted on each date. For an appointment, write directly to Frank Randt, 45 West 57th Street, New York City, stating your preference as to date and time.

QUESTIONS

to the Editor

Q: In ferrotyping, my prints don't dry evenly, and have circles without gloss. I use chromium tins and lots of wax but don't seem to get that highly polished gloss on the prints.

Ans.: The best treatment is lots of soap and water. Have the tins wet when putting prints on and squeegee evenly to press out all airbells. Much pressure is not necessary. Putting tins on radiators usually is bad practice because they may get too hot and the air is too dry to allow even drying. Prints dry best in warm, humid air. If the prints peel off before drying, they may be rinsed in warm water or alcohol before being tinned.

If prints stick, it means you need fresh hypo or additional hardener in it. If this doesn't do the trick, try emersion in a 20% solution of formaldehyde before placing prints on tins.

Q: Some of my old negatives have become tinted brown. Is this caused by improper development?

Ans.: This is probably due to inadequate fixing or washing. Film should be left in the hypo twice the length of time necessary for "clearing." Exhausted hypo fixes more slowly and may not remove all of the silver salts. Incomplete washing also may cause negatives to discolor with time. A half dozen changes of fresh water at five minute intervals will eliminate hypo from the usual films or papers, although paper requires about twice the washing time of films.

Q: Have tried to make a copy of a stained print, but it turns out yellower than before. I tried a yellow filter and a green one with uniformly unsatisfactory results.

Ans.: When copying old, faded or stained photographs, snappy black and white copies usually can be obtained by choice of correct filter. Use panchromatic film and a darker filter of the same color as the stains.

Q: I have an 8x10 print which has been retouched with pencil. Can I copy it by making a contact print on a negative?

Ans.: Yes, this may be done by placing print and negative (emulsion to emulsion) on the contact printer with the negative toward the light. It also may be done with the paper toward the light, but in that case the grain of the paper will show; this is all right if you want a diffused, pebbly effect.

The disadvantages of contact printing as above described are that the working up on the print may not have the same effect by transmitted as by reflected light. For this reason the best plan usually is to set the print up in even light, copy it, and make enlargements from the negative.

Tiger-Hunt With Spear and Minicam

By *Sasha A. Siemel*

PHOTOGRAPHS BY THE AUTHOR

HUNTING a tiger with high powered rifles in armored cars may be some people's idea of sport, but I prefer to do my hunting with a spear and camera. The technique of hunting tigers with a spear I learned from my old master, Joaquim Guato, and I will describe how with this stone age weapon I have killed dozens of man-eaters without ever suffering more than a scratch or two myself.

The technique of hunting tigers with a camera I learned from various sources and that, too, I will explain.

Perhaps my most exciting adventure was tracking and killing "The Rancher"—a huge tiger who for a long time terrorized the natives of the Matto Grosso where I lived for many years. This part of Brazil is near the geographic heart of South America. It is just northeast of the Gran Chaco swamps in which the little countries of Bolivia and Paraguay for years fought a bloody fratricidal war.

"The Rancher" was so named because he once killed an entire herd of several cattle in one attack. He had but three toes on his right forepaw and this left the signature of his bloody work throughout the "Great Marsh" region.

When the news was brought to my camp by a group of terrorized natives, I prepared to turn in early, start before sunrise, and get in as much hunting as possible before the mid-day heat. Before dawn we were on the trail, myself, about twenty native porters and hunters, and my pack of trained dogs.

We were at the foot hills of the Andes, and when the rising sun splashed crimson on the towering cliffs of the Serra do Ingazel I gasped in wonder for the Nth time at the spectacular display. The gi-

gantic walls seemed to be afire above the emerald green carpet of the jungle. The dogs began yelping salutations to the beginning of day and to show their delight with being once more on the trail. One of them started sniffing on the ground and started off on a tiger trail. More experienced members of the pack hung back, however, and we knew it was a stale spoor that would disappear after the sun came up.

The musky tiger smell lingers for days and it is especially strong in the early morning while the dew is on the ground. Knowing it was futile to follow such a trail, we continued in the hope of finding a fresh one.

I gave my spear to one of the boys,

- The author in front of the grass hut he calls home, skins of some of the man-eaters he has killed, and the steel-pointed wooden spear he uses.



◆ The South American Tiger, or Jaguar, is a killer.



my National Graflex, however, I kept around my neck.

Those who have ever attempted to photograph animals in their native habitat know the difficulties of approaching close enough to get anything but a tiny image of the subject. For this reason, I prefer a camera with a ground glass for focusing and with a supplementary telephoto lens.

Crossing the first stream, one of the wading natives was attacked by a piranha. These little river fish are so ferocious that they will attack anything. The native's blood stained the muddy water and in a few moments hundreds of piranha were swarming at him, attracted by the scent of blood.

As it was after the rainy season, the Matto Grosso was full of little streams and pools of water all full of hungry piranha cut off from their feeding grounds.

We dragged the native to higher ground, his legs bloody with a hundred little bites of the vicious fish and their razor teeth. In a few minutes he would have been mince meat. The native was

sent back with two of his fellows and after the blood had disappeared from the stream we ventured across without further incident.

This was one of the few times I set out to hunt on foot. Usually it is done on horseback with my specially trained dogs. Thus, it is similar to fox hunting in England. It is intensely more interesting sport than hunting from motor cars as in Africa. When on a hunt, I carry everything necessary for a prolonged stay—bedding, some food, a change of clothes, first aid kit and various other supplies. My camera equipment must be light, compact and efficient. I carry it in a special thick leather case hung by a strap from the front of my saddle. It hangs down the side of my mount directly in front of my knees. It is shown no favoritism when my dogs pick up the scent of a tiger and we are off! During this mad chase on horseback, we jump over hummocks and small streams, we scramble up embankments and ford large streams—taking our chances on the piranha.

From the direction of the river we heard the harsh cough of an alligator, a sound often mistaken for the South American jaguar or tiger. The sound doesn't fool the dogs, however.

Splashing through a pool of muddy water, something moved under foot. I had stepped on the head of an alligator. Quick as lightning it snapped, biting off the heel, tearing my boot. Fortunately it only scratched and bruised my foot.

I wrapped it up thinking of another incident just like it when I had several bones crushed. That time I was 400 miles from Colombo, the nearest town, and before I got there with

• While snapping this treed tiger, Siemel heard an ominous snarl. He threw his camera into the brush and grabbed his spear just in time to meet the charge.





• The author with one of his favorite Minicameras, a National Graflex, II.

some of the members of the expedition with which I was hunting, my wound became gangrenous and only a miracle of medicine saved my leg from amputation.

Along the bank of one of the streams we saw another group of alligators sunning themselves on the banks. The dozing monsters paid no attention to me. Undaunted by my earlier experience, I approached close enough to shoot them with my camera.

I was focusing for another shot, when the dogs began yelping and I knew something was up. By the happy sound in their cries, I knew it was not tiger, but some smaller, safer game. They had a baby tapir, and I was just in time to see them make their kill. Before they could drag it out of the water, however, the alligators smelled blood and came thrashing up-river. With hungry alligators, no one disputes the right of game. The dogs, wisely, retreated to the banks and barked at the dining 'gators. The noise didn't

seem to bother their appetites, however.

We pushed ahead and came on a most unusual sight—a tiger feeding in the open about 300 yards away. Tigers do not as a rule feed in the open but drag their "kill" into a thicket or the forest where they are not so easily seen and can feed without the necessity for constant vigilance.

We started after him immediately but in order to reach him, we had to go around a swamp. When, finally, we did arrive, the tiger was gone but our dogs picked up the scent easily and started on his trail. Soon we saw the tiger running and after about a mile's chase, he climbed a tree. He was in excellent position, sprawled on a limb about thirty feet from the ground. He was perfectly visible and inasmuch as there was short grass and no undergrowth beneath the tree, it was a perfect setting for a spear fight.

Because he was in such fine position for photographing as he lay on the limb, I decided to take a "still" of him. As I looked into the focusing hood and snapped the shutter, I heard the tiger snarl and saw him prepare to spring. I had just time to throw the camera well out of the clearing and grab my spear when the tiger sprang the thirty feet to the ground. Fortunately, he had misjudged the distance for he landed "bellywhack" on the ground in front of me.

Frightened by the shouts of the natives, he did not attack. Instead he scampered into the jungle. Luckily this was not "The Rancher," or I might not be here now.

Being near noon, we made a temporary camp and rested—if you can rest surrounded by 20 jabbering natives and a pack of excited hunting dogs. Picture taking was out of the question anyway as the sun was directly overhead and there were no shadows. Top-lighting is poor for any picture.

Early in the afternoon, after eating and dozing for a couple of hours, we again set out. Not being on my horse, I was soon outdistanced by the dogs when they picked up a hot trail. I followed the sound of their voices, now expectant, then

excited. Finally bedlam broke loose. They had a tiger at bay.

"It is The Rancher," the natives screamed.

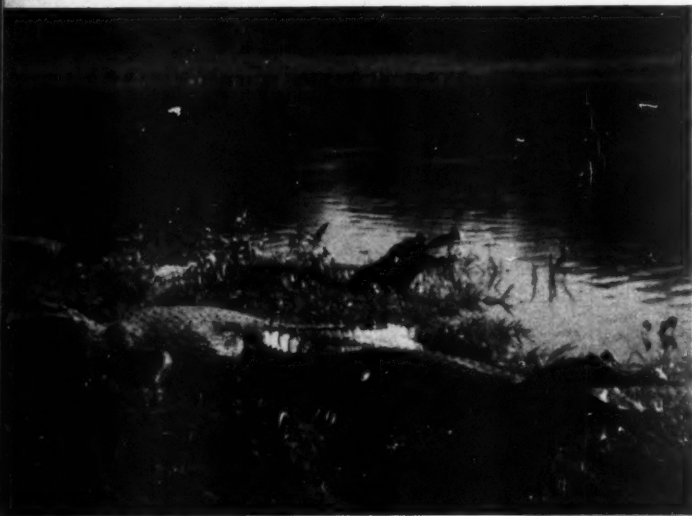
I ran as fast as I could, the natives behind me. The sounds did not seem to come any nearer. Suddenly there were agonized yelps, barks and cries. Something had gone wrong. When I arrived

ing the teachings of my old master, Joaquim Guato, I approached the tiger as he crouched beneath the thicket. I kept the spear pointed low to protect my legs from a sudden charge. I was prepared to raise the spear point in case he charged for my head. At all times, as I moved in, I kept the spear pointed slightly upward and the handle near the ground. The

dogs continued yelping and charging but did not dare to get too close to the savage claws menacing the body of the dead Valente.

At last The Rancher—for it was he—

- The dogs killed a baby tapir, but before they could drag it out of the water the alligators, smelling blood, came thrashing up-river and stole the prey.



on the scene, my worst fears were realized. One of my valued dogs lay bleeding at the tigers feet. It was my fault for letting the dogs outdistance me. The dog was Valente, the best tiger dog a man ever had. Together we had hunted and killed 64 beasts of prey.

The other dogs, nevertheless, did not give ground. From my native bearer, I took the spear which I had made myself. Seven feet long, it is made of unbreakable hardwood and pointed with steel I forged myself.

"It is the Rancher" the native yelled, I could not understand how they could tell even now. They seemed to have guessed from the dogs' sounds before even seeing the man eater.

When killing tigers with a spear it is necessary to have a clear space in which to make the animal charge. Remember-



left the thicket and took refuge near an opening. I kept advancing and inviting a charge. Finally, enraged by my advances and the dogs' attacks on his flanks, he stiffened. I saw his haunches flatten and at the same instant a bundle of jungle dynamite flew at me.

Standing with knees slightly flexed and holding my spear so that if the force of his charge was too great for me to resist

with my body alone, the end of my spear shaft would press against the ground and prevent the impaled beast from reaching my anatomy, I met his spring with a spear thrust into the chest. Immediately there was a hideous bedlam of sound as several hundred pounds of tiger flesh struggled in a maelstrom of flying, dagger studded claws, to get free of the spear.

The claws and fangs were only inches from my face. I felt his hot breath. Because of the underbrush I did not dare try to make a kill. Instead, I jerked the spear free and backed up. The smell of blood increased the fury of the dogs but also the anger of The Rancher. Although bleeding profusely, he was not seriously wounded. He followed as I backed toward the clearing. Once more he rushed, and again only the length of the spear in his chest kept the claws and fangs from my face. Again I withdrew the spear and backed up. When we were in the clearing I knew I had him. The dogs were getting braver but knew enough to keep out of range of the slashing claws. The yells, snarls and cries were

• This man-eater met instant death when a native arrow pierced his heart. Hunting without guns, only the tiger's heart is vulnerable and a mortally wounded animal can kill a hunter.



like bedlam let loose. Again I invited a charge. I hoped to strike the tiger's heart; only there can a death blow be delivered. A wounded tiger can kill a man faster than an unwounded one.

In all my spear has brought
26 tigers to judgment and I
hoped to be able to con-

• Slowly and methodically, the anteater scooped away the top of an anthill, looking for breakfast, unmindful that he was being shot—with a minicam.



tinue my record of never a scratch for myself.

The Rancher was heavier and stronger than any animal I had yet met. His two attacks each time drove my spear shaft into the ground and nearly broke it. If anything happened to my weapon I would be helpless. The next attack came sooner than I anticipated. The force of the charge impaled the animal on the blade of the cross piece. It almost threw me off balance. This time, I didn't withdraw the spear. I held it in the tiger's breast. One of us was going to get finished, I knew. The Rancher started backing up, shaking to get free of the spear and clawing with his forepaws. With both hands, I pushed the spear deep into his chest. I moved forward as fast as he retreated. With the spear, I tried to throw the Rancher on his back, but he was too heavy.

The next instant, however, he rolled on his side and clawed with four razor edged paws. I felt the wind past my face and the hot musky smell. I moved around the Rancher near his head and pulled the spear down toward his neck. His attempts to free himself now drew the spear deeper into his chest. I was well out of the range of the claws. The steel point edged toward the heart. In a few minutes the fight was over and I suddenly heard the screaming, yelping dogs. For the past few minutes I had been deaf to everything except the animal before me.

The Rancher was dead! If the noise of the fight had sounded like bedlam, it was as nothing compared to the wild, hoarse yelling the natives set up. I took the hide for myself and left the natives with the carcass which they proceeded to dismember for magic charms.

One mistaken idea about photography in the tropics is that extreme care has to be taken of both exposed and unexposed film in order to keep it from spoiling due to heat, humidity and other factors. In the South Seas, Africa, Borneo

and other parts of the world where the humidity is great, such precautions are necessary. However, in the Matto Grosso, I have found that my films may be accorded normal handling and treatment except in the rainy season. Often I carry my exposed films a month or more.

Only in developing does the climate of Matto Grosso make the procedure different from that in cooler parts of the world. For it is essential, of course, that the developer and the water used be of a temperature not over seventy degrees. In order to accomplish this, I wrap a wet rag about my bottle of developer and hang it in an air current. The evaporating water cools the liquid inside. I cool the water used in washing in earthen pots. I limit my printing while in the jungle to contact prints.

When very young, I felt the stirrings of wanderlust and an over-powering desire to live an adventurous life. I determined to do everything I could to live life to the full—to taste the exotic sweetness of freedom. The contentment that comes to me at sunset, when, after a hard day's hunt I sit before my palm-thatched hut, exchanging stories and incidents with my companions, tells me I have succeeded more than I ever had right to hope. That is why I take pictures.

I want to record the beauties of this country. I want others to feel something of the thrill of facing an angry tiger with nothing but a seven-foot spear in one's hands—to see with me the prolific jungle, the great rivers, the towering Andes, and the multitude of varied animal life with which this country abounds. Matto Grosso is a Paradise of scenic beauty, healthy climate and picture-making possibilities.

I invite all who read this to come to Matto Grosso. I should be happy to entertain you. It is literally a wonderland for all who love the out-of-doors and who find pleasure in hunting with gun, camera or both. As for myself, I stick to my spear and minicam.



● The banana merchant taking it easy toward the end of the day made an interesting pattern for light and shade. Although taken late in the afternoon, 1/50th second at f8 was adequate exposure.

THE STREET MARKET

By Alexander Lindey

PHOTOGRAPHS BY THE AUTHOR

A street market always is a fruitful subject for tourist photographers. But why travel until you've first recorded the "big game" in your own city?

LOOKING at some photographs of Southern sharecroppers, of T.V.A. workers, and of Kansas dust-bowl farmers, I found myself wishing for an opportunity to take documentary pictures.

Then I was reminded of the parable of the man who left the city of his birth to find another city, said to be more beautiful. When he got there, he heard of still another. He spent his life this way. About to die, he was told of a city

fairer than all the rest. He went there. It was the city of his birth.

Documentary photography records and comments on the social or economic scene. That scene is not a matter of geography. No matter where you are, material is at hand. You can, if you wish, do straight recording: factories, bridges, street-scenes, farms, dams, gas tanks, roads, power stations, lunch wagons, anything. This is the less signifi-

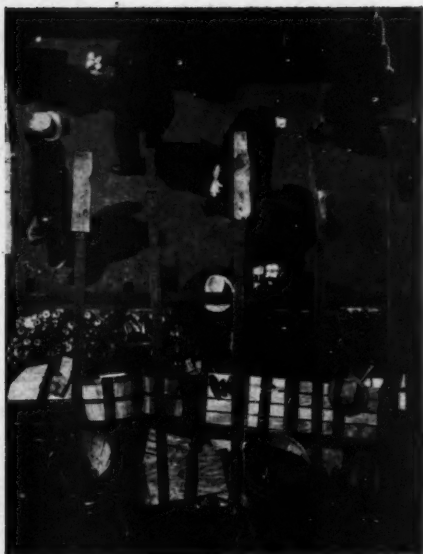


Fig. 2.

● Vertical shot downward. 1/25 at f8. The pictures in this article were taken with a Zeiss Super Ikomat A on Panatomic film.

cant phase of photo-documents. Or you can take slums, breadlines, picket-lines, strike riots, protest parades, or demonstrations, and thus criticize the social order. It wasn't necessary, I had to admit, to go south or west for material. New York City was rich enough. I wasn't thinking of its Bowery flop-houses, its bums, its soup-kitchens, its Chinatown, its Ghetto, its waterfront, all of which had been done repeatedly. I had in mind less hackneyed stuff. For example, the street-market on Ninth Avenue below 42nd Street.

This part of the city is only two avenue blocks from Times Square, but might well be two hundred. It has closer kinship with the Hudson River, a few blocks west. With its shabby three-story houses of dull red brick, its cracked sidewalks, its maze

of fire-escapes and chimney-pots, its rumbling El, its nondescript side-streets, it has a self-contained air of its own. It is reminiscent of old New York. At night it is quiet enough, despite noise of the crosstown traffic on 42nd Street and the ferryboat whistles that drift over from the river; but on weekdays it awakens to a lusty, clamorous life. That life is nourished principally by its push-cart market.

One afternoon I took the Ninth Avenue El and got off at 42nd. The station platform there is about twenty-five feet above the street-level. I looked down over the railing. The market was in full swing.

Large two-wheeled push-carts were lined end to end, close to the curb. They extended south for blocks. The shops that faced them had thrust their stands far out on the sidewalk, leaving only a narrow space for the crowd to jostle through. Most of the carts had a framework of wooden slats over them; if it rained or became too sunny, a length of canvas or oilcloth could be unrolled as an awning.

When I got there, the carts were uncovered. The bare laths made an interesting geometric pattern. I took a vertical shot downward from the El platform,

● Problem in harsh contrast, not to mention composition. The eye has a tendency to leap from the two figures in the center to the old ladies on the left and to the man on the right. Exposure for this and the pictures on the next page was 1/50 at f8.

Fig. 3.



Fig. 2. But I realized that although I'd get the design value of the slats, the people would be too foreshortened. So I took another shot at an angle of about forty-five degrees, Fig. 6.

Below there was an extraordinary variety of market sounds, smells and sights. Especially sights. The carts were piled with fruits and vegetables, meats and groceries, cheeses of many kinds, nuts in sacks, breads and cakes, shellfish and snails and eels, kitchen



Fig. 4.

- The broad-beamed lady. Contrast better controlled; background well conveyed.



Fig. 5.

- The Lemon Man. Good candid quality, but excessive contrast. The interesting old lady in the center is practically lost.

utensils and hardware, flowers and potted plants, drygoods, toys. There were several clam-bars, complete with ketchup and horseradish.

The crowd itself was no less varied. An Italian 'with a grizzled stubble was selling lemons from a sack slung over his shoulder. An old lady who reminded you of *Over The Hill* sat behind a tray of

rosaries and religious chromos. A down-and-outer with a sign strapped onto his shoulders trudged up and down, puffing a corncob. There was a consumptive peddling celery from a basket, and there was a pocket-size caricature of a wrestler

(Page 74, please)



Fig. 6.

- The 45-degree angle shot downward. Compare with Fig. 2. The purpose was to get the full pattern-value of the laths over the push-carts.

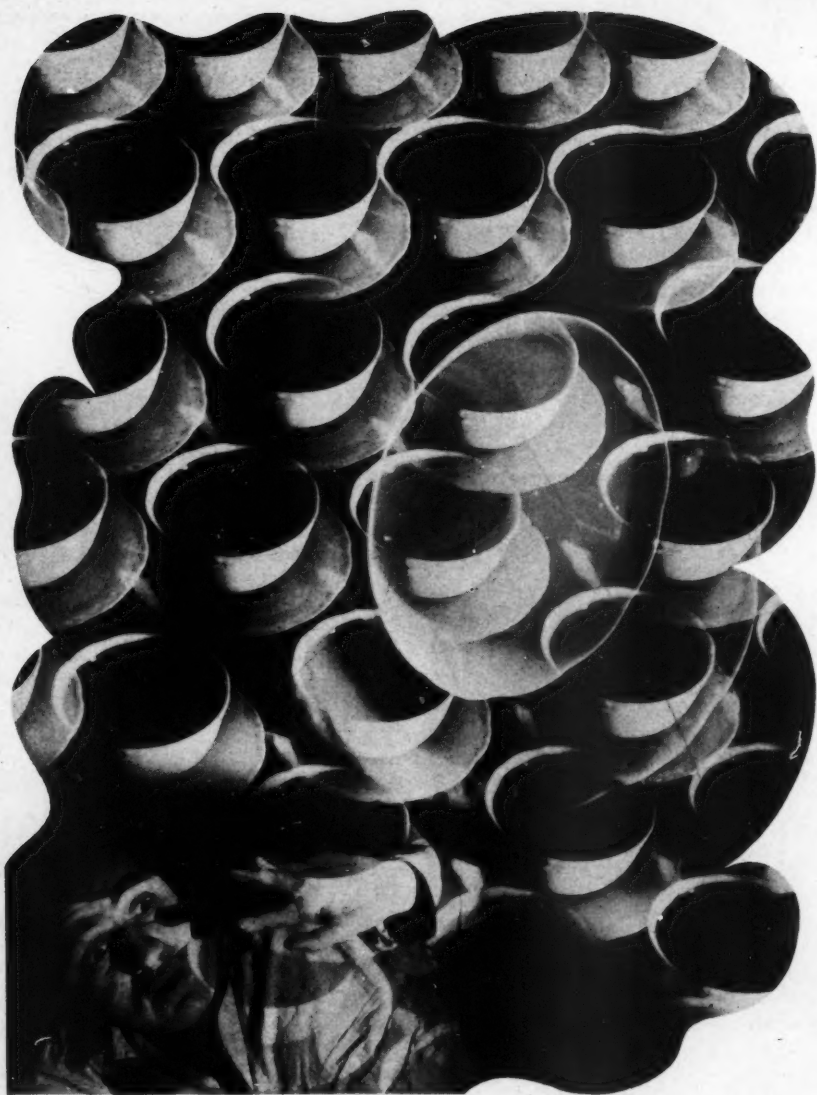


Fig. 1.

A PHOTOGRAPHER'S NIGHTMARE

- Hearing for the Nth time that Steichen once photographed a cup and saucer a thousand times inspired this version of "A Photographer's Nightmare." It was made by photographing a single cup and saucer 40 times on one piece of film and then moving up the camera for the forty-first exposure—the large saucer seen flying at the subject's head. The awe-struck head is a self-portrait and was printed in from another negative. Compare with Fig. 5. How to get startling effects like this is described in detail in the accompanying article.

A PHOTOGRAPHER'S NIGHTMARE

By Jacob Deschin

PHOTOGRAPHS BY THE AUTHOR

SAUCERS to the right of me, saucers to the left of me, all night long I tossed and dreamed! It was not something I ate, but something I heard that kept me awake and that caused me to make the print "A Photographer's Nightmare." Before I describe how I made it, let me tell why.

It was inspired by the Steichen legend! Now that the grand old maestro of photography has just closed his studio and retired the old yarn is current again. Steichen, the story goes, when a young man, photographed one cup and saucer a thousand times in order to study the effect of light.

Legends persist and become more distorted with every retelling, and there is no way of checking on most of them. In this case, however, it suddenly dawned on me that the hero of the story was not only alive but a resident of my own city. So I wrote to Steichen, and on the eve of his departure to Mexico he was considerate enough to reply. Steichen didn't photograph the cup and saucer to study light as the know-it-alls claim. Here is what he says:

"The series of photographs of white cup and saucer were not made in connection with the problem of lighting. They were merely a series of what might be called, in the equivalence in music, finger exercises, to get a clear mental picture of the tone range of various kinds of sensitive

material and just what could be expected of the material. The experiments were all carried on out of doors and most of them with sun-light."

So there are the facts, and let legend stand corrected!

While the example of photographing one subject a thousand times is a salutary one for those who would perfect their technique, the idea is still enough to disturb any man's sleep.

Presenting such a nightmare photographically is quite another problem. You can do it by taking a self portrait of yourself, and then on the same film, taking forty more exposures—separate exposures of a cup and saucer. Then move the camera closer for the final exposure—the large saucer flying at you across the page.

The various methods by which photographic images are combined in a single picture offer the means for probably the trickiest of all photographic tricks. A number of separate images, from two all the way up to any feasible number, may be incorporated in one negative by exposing the same film to several exposures, or a similar result may be obtained by combining separate negatives and printing them simultaneously.

One of the commonest forms of the multiple image picture is the double exposure. Very often double exposures, though unintentionally made, prove

● To avoid reflections, the cup and saucer was set on a black cardboard tube above a black cloth. Fig. 2.

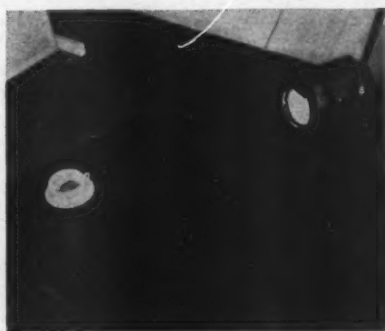




Fig. 3.

- The human element was photographed on a separate film with a black background.

more striking than the individual exposures would have been if exposed and printed separately. This making-a-virtue-out-of-a-fault type of picture has led many to experiment in this field more or less idly but more often with a definite purpose in mind.

The general desire among amateurs sometimes to make deliberate double exposures for the sake of achieving certain effects is revealed in the fact that although most miniature cameras of today are so designed that double exposures cannot wilfully be made because of the automatic winding mechanism, many camera users in purchasing a new camera want to know if it is possible to make a double exposure when and if desired. In some cases it is possible and where it is not, there is always the alternative of setting the camera on a tripod or other support and leaving the shutter open, successive exposures being made by covering the lens after each exposure. This latter method is, of course, possible only with non-moving subjects.

In the present article, I shall describe the basic method of making multiple ex-

posures on a single negative in which the image or images photographed are kept distinct from each other or combined, as desired. This is the ideal method and many so-called trick pictures, such as persons flying through the air, standing on their heads and doing similar outlandish things, are made in just this way. In fact, had this method not been discovered as it was god-knows-how-far-back, the art of the advertising photographer would be handicapped, indeed, for a good many of his startling notions are made possible only by grace of black cloth and spotlights.

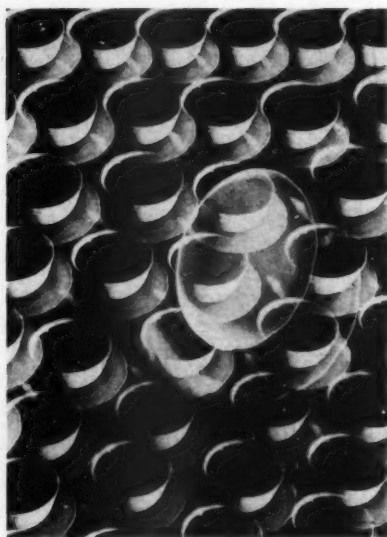


Fig. 4.

- How the "cup and saucer" negative looked after 41 exposures, before it was combined with Fig. 3.

Specifically, let us take the picture of the very much frightened photographer shielding himself from an avalanche of white cups and saucers created in a nightmare following a photographic talk fest during which someone told for the Nth time that Steichen photographed a white cup and saucer a thousand times.

It was necessary to make two negatives, although, ordinarily, one might have been sufficient and possibly more effective; certainly, it would have saved the

trouble of combining two negatives and some darkroom manipulation. The original plan I had in mind is, essentially, achieved in the picture, but several variations on the same theme could be created.

First I made Fig. 4. After stealing a white cup and saucer from the kitchen, my problem was to arrange a set-up which would exclude all light reflection except that coming directly from the white cup and saucer. My plan was to shoot down, from the same basic camera position, though, of necessity, swinging the camera slightly for successive exposures. Therefore, the floor or base had to be proof against light reflections.

Black cloth was the only answer, of course, but even black cloth will reflect light if sufficiently illuminated, as you can see from Fig. 2, the photograph of the setup as finally arranged. So, having spread a black cloth on the floor, I had next to consider where to set the cup and saucer. First, I tried covering a pile of magazines with a black cloth but somehow could not avoid getting some slight reflection from the cloth on which the subject rested. Probably these would not have been shown considering the great contrast between the white subject and the black cloth, and the fact that the exposure would, of course, be based on the brightness of the subject.

I did not want to take a chance, however, because if it did not work out I would have lost a great deal of time and effort for the final negative held a total of 40 separately arranged and exposed images. Was it not possible that with the accumulated exposures for 40 negatives totaling nearly 20 seconds, some impression of these relatively insignificant light reflections might be picked up by the film?

To avoid this danger, therefore, and in order to make it possible properly to illuminate the subject without revealing the support, thus achieving the desired impression of cups and saucers flying through the air, I finally decided on a cardboard tube that happened to be handy. This I covered with black paper

and set the cup and saucer on top of one end, as shown in Fig. 2, the subject being neatly and firmly supported by the edge of the tube. I then set up a spotlight at about the level of the subject so as to illuminate only the saucer and the outside and the lip of the cup. This provided the desired contrast or separation between the successively exposed images.

The proper exposure time for each image was arrived at with the help of an electronic exposure meter, with which I carefully measured the detailed shadow side, the brightest side, that facing the spotlight, and the in-between or half-tones. I finally arrived at the exposure time of $\frac{1}{2}$ second at $f8$ on Panatomic film. This gave me the effect of a bright white cup, yet at the same time permitted the retention of the proper relationship with the middle tones and shadows. For the two or three rows at the bottom, the exposure was cut to $1/5$ th second at $f8$ to aid in dodging in the figure of the photographer.

While any camera can be used, one with a ground glass is preferred. Starting at one corner of the ground glass, the first image was focused and arranged;

(Page 78, please)

Fig. 5.

● A variation of Fig. 1. In the print below, the negative was turned over and the corner was shaded while Fig. 4 was being printed on it. This caused the figure to be surrounded by shadow and gave an effect different from Fig. 1.



Make Your Own Tests

The first of a series of articles by MINICAM'S technical editors.

Was my exposure correct? Did I underdevelop? Overdevelop?

To the above questions, this article will not attempt to offer arbitrary replies, but will tell you how to find accurate answers for your own equipment and materials.

Simple tests for your camera, lens, shutter, paper, developer, etc., will be outlined in future articles in this series.

By Herbert C. McKay, F. R. P. S.

THERE is only one way to understand your photographic materials and to check their accuracy—make your own tests.

The results are applied in two ways. When the error is in a piece of equipment such as a shutter, a standard of correction is applied and thereafter the 1/50th second speed is calculated at 1/60th, or whatever the individual case may be. When the error is in development time, this factor is corrected.

One of the first things the amateur suspects is his lens, although the reason for this is obscure. The owner of a good, modern miniature camera has little reason to suspect it. On the contrary, such simple things as developing, printing and exposure—processes which are almost impossible to maintain at a correct level—are accepted as perfect by him.

Later we shall fully consider the testing of the lens and shutter, but at present we shall concern ourselves with tests to control dark-room procedure.

The most common error made by the amateur photographer is that of exposure. Most exposures are supposedly controlled by an exposure meter, but this does not insure the correct exposure by any means. When the meter consists of a calculator, or even a visual meter, and in some cases even the electric meter, the readings are

not dependable if they are invariably used according to published factors.

On the contrary any visual meter and any electric meter which is in good working order may be used to indicate the correct exposure providing the user has established his own factor of correction by adequate test. It is obviously necessary therefore, for the amateur to know how to test exposure. The one difficulty is that as the tests for exposure and for development are, in a measure, interdependent, a little care is necessary in interpreting results to establish this dual standard.

The basis of such tests is the *stepwedge*. The stepwedge is merely a series of gray tones. The two extreme tones in the series are pure black and pure white while the intermediate gradually change from one extreme to the other. For satisfactory work the series should contain at least six gray steps in addition to the black and white, and it is definitely better to have eight gray steps in addition to the black and white making a total of ten.

As the wedge should be carefully prepared, the amateur will find it more convenient and practical to purchase a wedge from a photographic dealer than to try to make one himself. A wedge can be made, of course, by selecting the necessary tones from an assortment of gray

paper, or from photographic paper which has been given a short exposure and then developed. However, for many reasons, the commercial wedge is preferable.

It is recognized that the purpose of photographic reproduction is to duplicate, in so far as possible, the tonal values of the original. Black should be reproduced as black, and white as white. While it is not difficult to reproduce a tonal scale of as many as sixty tones in a negative, the ten step division provides a more distinct separation and is adequate to indicate any errors which will definitely affect the photographic result. It is obvious therefore that if we make a photograph of the stepwedge and obtain an image in the negative which is of satisfactory character, then both exposure and development must have been correct. The negative is examined directly when making such tests, because a perfect negative can be made to give a print which is far from satisfactory while several negative errors can be masked in printing. This will be explained later.

What is a satisfactory reproduction? The black step of the wedge should appear in a negative without any deposit of any kind. It should have the same transparency that is seen on the edges of the film, where they have been protected by the holder. The white step should be sufficiently opaque that an exposure of even two times normal when enlarging, will not produce a distinct tone. In short the two extremes of the wedge should be very definitely black and white. If, in addition to the conditions just described, the remaining eight steps of the wedge can all be plainly distinguished, one from the other, then the reproduction is satisfactory in character.

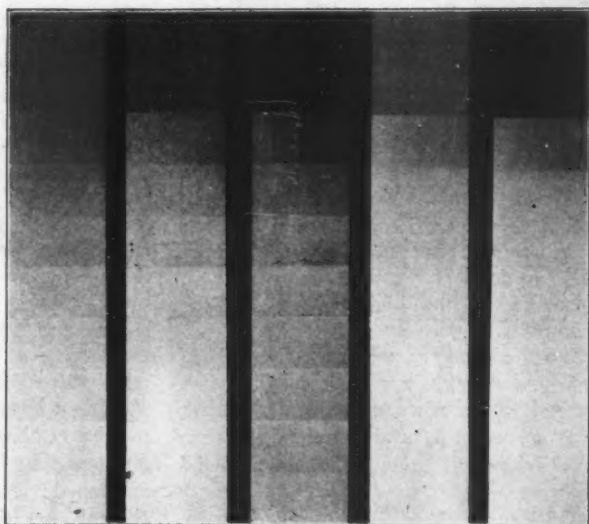
Having established the

nature of the wedge and the purpose for which it is used as well as the character of the image obtained, we should consider the interpretation of imperfect results.

Just remember in describing these results we are speaking of the negatives in which the black step is represented by transparency, and white step by an opaque deposit.

Two or more dense steps merged. The merging of two or more steps at the white end of the scale indicates an overexposure. The next to the white step on the original wedge has a definite tone, and it requires a definite overexposure to get the same action from this as is obtained from the white step of higher reflecting power.

Two or more transparent steps merged. When we find two or more of the steps at the black end of the wedge so nearly alike that they cannot be distinguished the condition is one of underexposure. The next to the black step has a certain brighter tone than the black and this will be recorded upon the film if it is given sufficient time. When insufficient time has been given the second and some-



● Prints from step wedges. These are not true reproductions of the negative, but they do show some of the greater changes.

From left to right they show (a) Under exposure—under development; (b) Under exposure—over development; (c) Normal; (d) Over exposure—under development, and (e) Over exposure—over development.

times even the third step will not record and the two or three will all be shown on the negative as indistinguishable and transparent.

Note: in the case of overexposure the last black step may show a tone while in the case of underexposure the white step may be lacking in full density, but these are incidental conditions the significant ones being those we have described in the two preceding paragraphs.

All test conditions should be judged from the negative—**Not from prints.**

It will be seen that inasmuch as the only errors in exposure which can be made are either too much or too little, the two results just described are the significant exposure factors.

Having determined an absolutely correct exposure, you are ready to standardize your developing technique by means of the same stepwedge. It is unfortunate that so many amateurs believe that a developer compounded according to directions, allowed to act for the recommended time and held at the recommended temperature will always yield the best possible results. Nothing could be farther from the truth. The standard factors of development are recommended averages. They are not intended to guide you along the full road of development, but only serve as a guide post to get you started correctly.

If you have made a roll of film out in midsummer sunshine, perhaps on a open beach, or on a snowcovered skifield, you will have excessive contrast and it is not only accepted but definitely the proper thing to do to give a shorter development to overcome the high contrast of the original.

On the contrary, when a roll has been shot under conditions of poor light when there is an absence of natural contrast, then it is most natural to extend the time of development to build up an artificial contrast.

Of course there is the objection so often raised that when one keeps a roll of film in the camera for two or three weeks and has all kinds of negatives on

this roll he cannot adopt such procedure. That is perfectly correct, if he does such a thing as this. However, it may safely be assumed that the average amateur using a miniature camera does so, among other things, so that he may have a sufficient number of exposures available for one day or one situation. It is really difficult to imagine anyone in the habit of keeping a roll of film in the camera for two or three weeks.

It has been our experience that amateurs often shoot three or four rolls a day. With the modern conception of picture making, it is not difficult to find a hundred subjects in the course of a single day. However in case the roll is not completely used, the exposed portion should be detached, removed from the camera and developed in the way best calculated to get the greatest quality from it. There is little reason in making a lot of exposures from which you know you will not be able to get the most when they are developed.

In addition to these special conditions where you are using a method of development not to your advantage, there is the matter of standardizing the developer to your particular circumstances. These personal factors include personal preference as to the general type of negative desired; the average light conditions in the portion of the country where you make your picture; whether you do most of your work by daylight or artificial light; by the exact brand of film you use and the emulsion number of that film and others. When you standardize development, and are sure that the exposures have been correct, you automatically compensate all these various factors and arrive at the developing conditions which give you the negative you prefer.

With a known proper exposure, which can be established as already described, photographs of the wedge are made and developed. Examination of the image in the negative will reveal certain conditions normal or abnormal which will be described.

Note: Many of these conditions will

not be obvious, so the examination must not be superficial. In making tests, exposures from $\frac{1}{2}$ second at $f/3.5$ to $1/100$ at $f/16$ all gave "printable" negatives.

Black and white in full transparency and opacity respectively. This is the chart appearance given by correct exposure, and will also indicate correct development.

Extreme steps not in full contrast. The black step has a deposit on it while the white step is not full opacity. This indicates a condition which is not uncommon with modern film, namely, overexposure followed by underdevelopment. All of the steps are distinguishable but the degree of difference between any two steps is not as great as in the original.

Black transparent; white not opaque. Here we have correct exposure as indicated by the black of the first step followed by the other ten steps all distinguishable but of low contrast with the white step lacking its full normal density. The trouble is one of underdevelopment.

Excessive contrast between steps. This is often accompanied by merging of steps at the white end of the scale, and indicates overdevelopment.

Black steps merged, white not opaque. Here we have the merger of black steps indicating underexposure and the lack of contrast indicating underdevelopment.

Deposit in black step, high contrast throughout. This is almost always accompanied by merging of two or more steps at the white end of the scale. The deposit in the black step indicates overexposure while the high contrast indicates overdevelopment.

Black step merged, white step possibly merged, high contrast. This was at one time the common character of amateur negatives. We have the merging of black steps indicating underexposure accompanied by high contrast and *perhaps* a merger of highlight steps indicating the underexposure was followed by overdevelopment. When this is carried to extremes we get a "soot and whitewash" effect which in some cases resembles a wash drawing.

So far we have considered only exposure and development as these are the "A B C" of photography. Make these tests and prepare for more in future issues.

Snapshooting the Screen

(Continued from page 43)

the inclusion of the marginal lines or tilting the easel in the opposite direction to that of the tilt in the negative.

It seems an ideal place for movie shots is the front row of the balcony, usually called the mezzanine. Here you have no obstructing audience heads to worry about and in addition have the advantage of resting your camera on the balcony. Sharply detailed negatives are less likely in movie shooting than in stage photography. Therefore, it is advisable, in the main, only to shoot close-ups and semi-close-ups, no general scenes. The close-ups will be much more interesting than the others anyway, because the lighting usually is better arranged and brighter, permitting shorter exposures. Your negatives will have a certain softness to them, a sort of "movie performance" shot softness, may we call it, which often, particularly in the case of head shots, will prove rather attractive.

When you make your prints, remember that movies are copyrighted, and that you may not sell any of your screen snapshots.

Unless you happen to own and use a telephoto lens fast enough for the purpose, your shots probably will fill only a portion of the negative. But this will not be of any great consequence as your movie shots probably will be enlarged to perhaps bigger than 5×7 inches, perhaps even smaller, to provide a sequence of pictures to be pasted in an album or otherwise arranged to constitute a record of the picture.

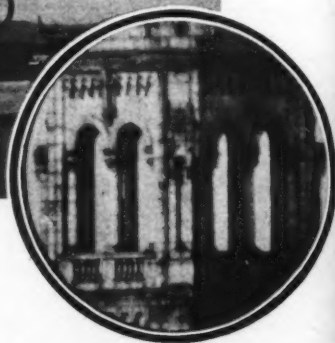
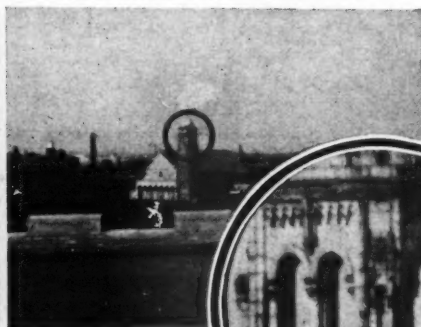
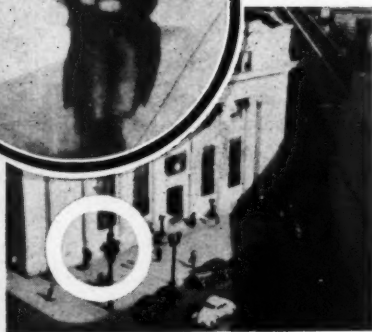
EMERGENCY LENS SHADE

A few winds of the protective paper covering of roll film can usually be used as an emergency lens shade. The natural curl of the paper assures its gripping the front of the lens sufficiently for all ordinary purposes.

Long-Range Snapshooting With an Argus

By Victor H. Wasson

Any camera can cover sport events from a mile away. The lounge in the white circle might have been the governor. Take a look at him in the telephoto shot. The closeup of the tower at the right was taken from more than 5,000 ft.



• For the above shots, the author used an Argus camera and a 52 telescope.

“TO countless thousands, the limitless horizon of photography is an end in itself. The unusual shot obtained against improbable odds may be of far greater importance than the object pictured.” With this axiom in mind, I admit that the pictures on this page lack sharpness, detail and brilliance—in short, they are lousy photos. They are far better, however, than anything obtainable from possible blowups from a proportionate section of a negative. They are unusual shots obtained against odds, yet anyone can do as much.

How to do it? (1) Set your camera at infinity; it does not need to be focused. (2) Look through your telescope, opera

glass or binoculars focusing on the desired subject. (3) Fasten scope in front of camera and make your exposure. That's all.

There are any number of ways to join camera and telescope. Just placing the lens up against the eyepiece will work, but keeping it there while you get a shot is another matter. The accompanying drawing shows a method of combining a camera and telescope into one unit that eliminates all vibration between the two and yet makes provision for focusing the instrument and aiming it.

The following step by step directions are easy to follow and need no special parts or tools.

Obtain a telescope with at least three sections—I paid \$2 for mine in a pawn shop—carry it to the nearest hardware store and purchase four galvanized pipe straps, one which will completely encircle the small or focussing tube and allow the two holes to come together and coincide with each other, another which will so fit the next largest tube and two to fit the largest tube in the same manner, as at A. These sell at about three cents each. Now purchase two sliding lock bars of the type used to hold casement windows ajar. I paid forty cents apiece for them. One machine screw to fit your tripod socket, four half inch bolts which will pass through the holes in the pipe straps, about a dozen three quarter inch round head brass screws and one nut of the same size and thread as the lock nut screw on the sliding lock bars complete our purchases. A dollar and a half should be ample.

Back in the shop, draw your 'scope to its greatest length. Cut four pieces of inner tubing to fit inside the pipe straps as you bend them around the different sections of your telescope. This will protect the finish and make a tight job.

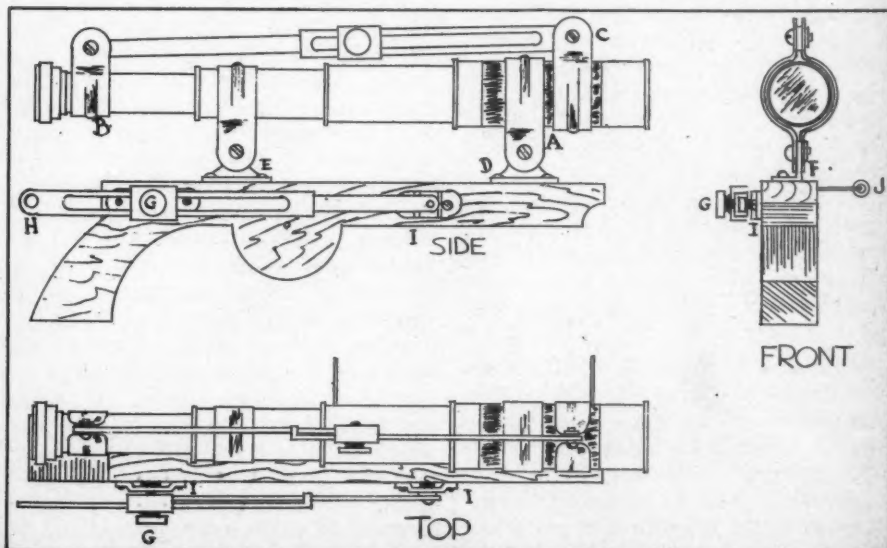
Remove the fittings from one of the

sliding lock bars by filing the heads from the rivets; save these fittings.

Bend a pipe strap around the small end of the 'scope, as near the eyepiece as you can get it. Don't forget to wrap your strip of inner tube between the pipe strap and the 'scope tube. Bring the ends of the strap together and pass a bolt through one hole, then through the hole in the small end of the sliding lock bar and thence through the hole in the other end of the pipe strap. Draw up tight so as to firmly clamp the slide bar between the two ends of the pipe strap and secure it to the focusing tube of the telescope, as seen at B.

Now draw out the slide bar and repeat this process at the large end of the telescope, using a larger pipe strap and clamping it as near the end as possible. (C). This provides a method of focusing the 'scope and locking it in focus so that subsequent operations will not jar it. Try loosening the locknut on the sliding bar and focusing the telescope by sliding the small tube in and out. Then lock it in focus by tightening the lock nut. See?

Now. One of the fittings removed from the first slide bar was shaped like an an-



• Some dime store hardware is all that is needed to make the above rifle mount for the telescope, as described in the article.

gle iron with a broad base pierced by two holes, which was originally intended to be screwed to the window sash and swing out with it. This fitting will be found at D.

Remove the duplicate of this fitting from the second slide bar. Repeat the business with the pipe clamps only bolt in these angles, with the narrow end toward the 'scope, instead of the slide bar. Place these clamps as follows: one beside the clamp already installed on the large end of the 'scope, facing away from it. Another on the second (not the focusing) tube of the 'scope and in line with the one previous (D E). This gives us a telescope with a sliding lock bar clamped between the front and focusing tubes, and two angles fastened to the front and next to last tubes. Beginning to look like something now.

Cut a piece of white pine close to shape shown and screw angles to top side with flat side near to edge of the wood. (F).

Take the remaining slide bar fittings (the ones originally intended to be screwed to the window sill) and fasten one to the heavy end of the remaining lock bar. Unscrew the lock nut and slip off the round bearing washer. Removal of this washer will permit the lock nut screw to pass entirely through both strips of the slide bar and also through the remaining sill fitting. Fasten this here with the nut purchased for the purpose. This gives us a slide bar with sill fittings for fastening it to the right side of the base along with the telescope. By loosening the lock nut (G) this slide bar may be pulled out so that the camera, when fastened to it may be brought up into position against the eyepiece of the telescope.

The location of this slide bar will depend on the location of your tripod socket. The position shown is just right for my Argus. (The pictures shown were all shot with an Argus). The best way to locate this bar is to place the camera against the eyepiece of the telescope and run a bolt through the hole in the small end of the slide bar and into your tripod socket (H)

then mark the positions occupied by the sill brackets where they touch the base or mounting board and fasten with round head screws (I).

Now, this step is most important. That is, creating a light proof joint between the camera and the 'scope. I am using a microscope attachment slipped over the eyepiece of the telescope. However, a very satisfactory one may be made from a section of mailing tube. That is what I used in the first place.

Now make a heavy wire loop around a pencil, twisting the surplus wire around in a spiral, leaving a stem about three inches long. Insert this stem in a hole drilled in the mounting board just large enough to receive it tightly. Place this hole on the side away from the slide bar and about in the middle. Drill another hole of the same size clear through the board from side to side near the forward end and insert a straight pin of the same wire about six inches long. This loop and pin will serve as rifle sights to aim your instrument after the camera has been placed over the eyepiece. (J). The author was fortunate to have an old rifle 'scope to do this job. This is ideal but unnecessary.

Well, that's that. Load the camera with Super X or Ultra Speed and let's go. Fasten the whole instrument to some solid object. Your tripod will do. Bolt the camera to its sliding bar hanging DOWNWARD and slide it up UNDER the 'scope eyepiece out of the way.

Loosen the locknut on the sliding bar on the telescope and squint through the eyepiece. Pick an object about a mile away to start. Focus carefully and tighten the locknut. Now, keeping the object within the field of the telescope, bend the wire loop this way and that, and slide the front wire in and out until they align on the object. Recheck through the 'scope, and back to the wire and back to the 'scope, etc. Do this carefully or you will miss the object entirely. Furthermore, one setting suffices for all objects at the same distance. For instance, if focusing at a mile, one setting of this aiming device will

(Page 81, please)



The General Electric EXPOSURE METER

"WHERE can I get one?"—that's the question camera enthusiasts ask when told about the new G-E exposure meter. Packed with new features, this exposure meter offers every camera fan an essential tool for still and movie work in both color and black and white.

Has Greater Light Range

You read all light intensities easily, accurately—from dim interiors to the brightest sunlight. Your G-E exposure meter is as useful in the darkroom—where you read foot-candles directly—as in the field or studio. Designed to meet every photographic use, it is versatile, accurate, easy to use, and lightning fast.

Is Sharply Directional

The directional hood shades out overhead light and excludes unwanted side light. The hood slides and locks into position. Undesired light will not affect your results.

Compact and Sturdy

In size and appearance, as well as performance, this G-E exposure meter is a photographic essential you'll be proud to own and use. The hood, when closed, gives complete protection to the cell and face of the instrument. With ordinary care, the exposure meter will give long, dependable service.

Inquire Today

Use one of these new exposure meters when you make your next pictures. If your regular dealer does not have the new instrument in stock, call your nearest G-E sales office or write General Electric, Schenectady, N. Y., for information.

General Electric Co.
Dept. 6C-201
Schenectady, N. Y.

Please send Bulletin GEC-126 which describes the new G-E exposure meter.

Name.....

Address.....

City..... State.....

Dealer.....

Local Address.....

430-98

GENERAL  ELECTRIC

Makeup for Your Color Picture

*How the Model Was Made Up
For This Month's Cover*



1. Cleansing Face.



2. Applying Foundation.



3. Cheek Rouge.



4. Drawing Eyebrows.



5. Powdering.



6. Building up
eyelashes with
mascara.



7. Outlining lips.

By Peter Jean Vest

NEXT time you invest in a roll of color film to take living portraits of your family or friends, give a thought to the face of your subject. All too frequently we take infinite care to obtain an interesting composition, to adjust lights at the proper angle, to provide a pleasing background, and at the same time take for granted the face we are photographing.

Experiences with black and white film reveal that street make-up in a photograph show that a woman's lips appear black and often there are unsightly hollows on the cheeks. Results with color film also are unsatisfactory. The lipstick that had a subdued natural tone on the street comes through bright red on the film. Cheeks appear red and flushed; eye shadow stands out in spots of color, and minor skin discolorations become major faults.

In black and white these flaws are bad

enough, but retouching is sometimes possible. However, if you have ever tried to retouch a miniature size negative, or even an enlarged negative, perhaps you have ended by chucking the ruined picture in the wastebasket, and the retouching pencil after it. In color, with three-color separation negatives retouching is out of the question.

The answer is make-up. Retouch the subject rather than the film.

Ordinary street make-up will not do the job. A heavier foundation, or powder base, is needed to give a smooth even skin tone, and yet it must be thin enough to retain natural skin texture. With properly exposed color film, light sources need not affect the colors of the face, and a simple make-up routine may be worked out.

First, cleanse the face of old, street make-up with a liquid remover. Then a skin tonic, or mild astringent, may be applied to close the pores and freshen the face. Now a foundation that matches the subject's natural skin tone. You will notice the liquid has a slightly grayish cast and tones down the red of the face.

Apply the foundation thinly and evenly over the face; covering more heavily, areas where freckles or discolorations are present. This will give your subject the smooth even skin of your favorite movie star. Now apply rouge sparingly on the cheeks. Ordinary rouge is not so good. It is generally too red and bright, whereas the Technicolor rouge has a brownish cast. A small amount of brown eyeshadow may be used. Avoid too much color in eyeshadow or in cheek rouge. Blend the color well into the foundation so the result is not spotty, or "hot." Then press the Technicolor Powder that matches the foundation all over the make-up to "set" it.

Dust off the excess powder—a complexion brush is handy for this purpose—and apply a little mascara and lipstick. The model now is ready for the cameras.

The procedure is quite simple. Almost every woman has worked out a similar method for everyday use, and a color photographic make-up, to be successful, closely approximates street make-up.

Men, who have thus far pooh-poohed mention of make-up for themselves when items were noted for their use, should now look over their picture file. Not every man wants to look like a movie hero, but couldn't something be done to hide that heavy beard, and conceal a few of those lines, without qualifying the subject for a beauty contest? Of course.

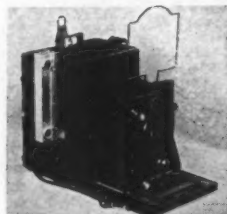
The procedure outlined above should be followed, and I'll wager any number of you will get more kick out of it than you've had since you were made up for the school play. For example, a little Elizabeth Arden No. 2

FOR BETTER PICTURES

2 1/4 x 3 1/4 Revolving Back

SPEED GRAPHIC

with Coupled Range Finder



Just like the Speed Graphics the press photographers use with the added advantages of smaller picture size for economy and Revolving Back for greater versatility! When equipped with coupled range finder and photoflash synchronizer, it is as fine and versatile a camera as you can buy. Be sure to see it at your dealer's.

National **GRAFLEX**

The world's finest miniature reflex camera is a prime favorite among those who make prize-winning pictures. It's just a handful, yet it has f/3.5 lens, focal plane shutter, eight speeds to 1/500 second, full vision focusing and gives ten album-sized 2 1/4" x 2 1/2" pictures from an 8-exposure film! Your dealer will gladly explain the many other advanced features of this versatile camera.



GRAFLEX

Enlarg-or-Printer

Here's a natural complement for the American-made 2 1/4 x 3 1/4 Revolving Back Speed Graphic and National Graflex! As an enlarger, the Enlarg-or-Printer accepts all miniature negatives—and larger ones up to 2 1/4" x 3 1/4" sections of 4" x 5". As a contact printer or retouching desk, it accepts all negatives up to 8" x 10". It is almost a complete darkroom in itself! Ask your dealer for a demonstration.



FREE! Send today for our free catalog of Graflex and Speed Graphic American-made, Prize-Winning Cameras and Accessories and the Enlarg-or-Printer. Paste coupon—or write your request—on penny postcard, if you wish. Folmer Graflex Corp., Dept. MC-1, Rochester, N. Y., U. S. A.

FOLMER GRAFLEX CORPORATION
Dept. MC-1, Rochester, N. Y., U. S. A.
Please send me your free catalog of Graflex and Speed Graphic Cameras and Accessories and the Enlarg-or-Printer.

NAME _____
ADDRESS _____
CITY _____ STATE _____

GRAFLEX
PRIZE-WINNING CAMERAS



FILMAREX "II" ENLARGER

Improved features of this finely engineered enlarger enable one to turn out enlargements with the ease of contact print making. Designed for 35 mm to 2 1/4 x 2 1/4 negatives. Special negative carrier allows enlarging from original roll without cutting film. Six metal masks included. Furnished with pair of 3 1/2" mounted condensers and 100-watt frosted lamp. Special independent focusing arrangement provides critical definition. Fitted with 9 cm F 4.5 anastigmat lens in iris diaphragm. Linear magnification: 1.5 to 7 diameters.



COMPLETE . . \$80.00

with F 4.5 lens . . . Other models from \$27.50 to \$140. Send for folder.

At your dealers or direct from

MEDO

15 W. 47th ST., NEW YORK

CANDID CAMERA OWNERS

SPECIAL SALE—35 MM FILM

AGFA INFRA-RED

25 Feet for \$.75

In Bulk of 100 Feet or More at \$.02 1/4 per Foot
F. O. B., Hollywood, California

HOLLYWOOD RAW FILM CO.

P. O. Box 3056,

Hollywood, California

WANTED

Your name and address—to send you prices and catalogs

MEXICO CAMERA SPECIALIST

Foto Mantel Suor. Rudolf Rudiger, V. Carranza 11—
Postbox 1450, Mexico City—109.
Branch: TIJUANA, BAJA, CALIFORNIA

German cameras—Fieldglasses—Movie cameras and Projectors
ASK FOR PRICES AND CATALOGS

ALL NATIONALLY KNOWN PHOTOGRAPHIC LINES

carried in stock for

IMMEDIATE DELIVERY

Tell us your needs. Courteous, prompt service.

W. J. GRACE

4064 Stanford,

Dallas, Texas

MODERNIZE YOUR 9 x 12 CAMERA

The NEW Kalart Synchronized Range Finder lets a film pack camera go candid—gives it the convenience of a "minnie," and ends fusing with groundglass. Completely automatic focus. plus advantages of "Man-Size" negatives. Available for 2 1/4 x 3 1/4 inch. 9x12 cm. and Speed Graphic cameras. New Kalart Micromatic Speed Flash now can be used with any popular make flashbulb and shutter characteristics. Kalart equipment made in U. S. A. Write for details.

KALART CO., Room 508, 58 Warren St., New York, N. Y.

Technicolor Moist Cheek Rouge blended over the beard line before the Foundation is applied, will make the beard inconspicuous to the camera.

In making up the model for this months cover, Elizabeth Arden make-up was used, as follows:

Elizabeth Arden Liquid Remover.

Skin Tonic.

Elizabeth Arden N Technicolor Liquid Foundation to match the complexion: Women—A, B or C. Men—D or E.

Cheek Rouge: Women—No. 1 E. A. Moist Technicolor Cheek Rouge. Men—No. 2 E. A. Moist Technicolor Cheek Rouge.

Brown Eyeshadow: No. 2 or No. 14X Liner.

Brown or Black Eyebrow Pencil.

Powder to match the Foundation: Women—A, B or C. Men—D or E.

Mascara: Black, Walnut, Brown or Blue.

Lip Rouge: Women—No. 1 Technicolor Lip Rouge. Men—No. 2 Technicolor Lip Rouge.

Complexion, lip and eyebrow brushes.

Makeup can be obtained in ready kits. For color photography, the "stage" make-up kits can be used. For black and white work, a "panchromatic" kit is desired.

Miner's, Inc., New York City, and Max Factor, Hollywood, are among the other manufacturers who market make-up kits.

The Street Market

(Continued from page 59)

peddling garlic. A blind banjoist was led by. Not all the sellers had carts; some had spread their goods—neckties, gloves, handkerchiefs—on sheets of wrapping paper on the sidewalk.

I got to work. I snapped the broad-beamed housewife who was looking at house-aprons, Fig. 4, but I was having trouble.

First of all, there was the matter of contrast. The sunlight on the wooden crates, on the goods in the carts, on people's faces and on the sidewalk provided harsh contrast against the pools of black shadow under the carts and (in some places) the awnings, as in Fig. 5. To compensate, I allowed an extra stop to that indicated by my Weston.

Second, there was continual motion. The shutter speed had to be fast enough to catch people on the move without blurring; the diaphragm aperture had to be kept small enough to get some depth of field. The background was part of the story: it had to be kept in focus. It

would have been best to shoot at 1/100, but that would have required too great an opening. I worked mostly at 1/50, and for an occasional shot, at 1/25. I was using Kodak Panatomic film, which is fairly slow. It is 12 on the Weston meter. It would have been better to use a faster film, such as the Agfa Plenachrome, which is relatively fast (24 on the Weston) and has good grain. I hadn't anticipated this difficulty, and had no Agfa film with me.

Third, there was the old problem of getting candid stuff. I was using a fairly small camera (a Zeiss Super Ikomat A, the smallest of the Super Ikomats, now called Ikontas), and I kept it pretty much out of sight. And yet, time and again just as I was getting set, the people I was about to photograph turned, became self-conscious and looked into the camera. I tried a few of the old tricks: ducking into doorways and store-entrances; hiding behind street showcases; pivoting. In pivoting you clap your eye to the finder and swing around casually, using the camera as you would binoculars; at some point in the arc you press the trigger, without letting on, and complete the swing.

It took me two hours to take about thirty shots. As the light was not so good any more, I decided to call it a day. I headed toward the El station. On my way I noticed a banana peddler. Most of his bananas were gone; he was through fighting for trade. He sat quietly beside his push-cart reading a paper. The oblique light made an interesting pattern and he became Fig. 1.

To temper the contrast, the films were under developed. In some cases—not all—soft projection paper was needed in enlarging. I viewed the final prints with mixed feelings. They were photo-documents only in the sense that they recorded, directly and without manipulation, a part of the current scene. They did not comment or criticize. That I vowed to do in my next series. And I began to think of the Forgotten Man. One of these days I will minicam him.

**The Newest High Grade
Miniature Camera in the
Popular Priced Field**

GEVIRETTE



The Gevirette is equipped with a fast F2.9 anastigmat lens in Compur shutter with speeds up to 1/300th part of a second. Takes standard No. 127 film and makes 16 pictures size $1\frac{5}{8} \times 1\frac{1}{4}$ on roll. It measures $2\frac{3}{4} \times 2 \times 3\frac{1}{4}$ ", is chromium finished, compact, light weight with an all metal leather covered body.

\$39⁵⁰

Eveready Case \$4.75

Trade in Your Old Camera

Send for Folder M.G.

Willoughbys

110 WEST 32ND ST., N. Y.

World's Largest Exclusive
Camera Supply House

COUPLED LENS REFLEX
THE REFLECTA
 FOOL PROOF
 GROUND GLASS
 FOCUSING



- F4.5 Anastigmat Lens
- Stello Shutter (1/25, 1/50, 1/100 Time and Bulb)
- Picture Size 2 1/4" x 2 1/4"
- Takes 12 Pictures with Standard No. 120 Film

ONLY \$19.50

With all metal leather covered case

Enjoy the thrill of seeing the picture you're going to take exactly as it will come out. In sharp focus, right side up, bright and clear even during exposure. This is one of the many outstanding features of the Reflecta previously found only in the most expensive cameras. Some of the other features of this camera are Cable Release, Depth of Focus Scale, Film Pressure Plate and Shield for Super Sensitive Film. The Reflecta is 100% Precision Built with an All Metal Leather Covered Case.

ORDER NOW, for the most outstanding Photographic value of 1938, Fully Guaranteed at only \$19.50 prepaid or C. O. D. plus postage.

Candid Camera Supply Co., Dept. R.M.I., 303 W. 42 St., N.Y.C.

**THEATRE QUALITY IN 16 mm. SILENT
 AND SOUND PROJECTORS**

AMPRO offers a complete line of 16 mm. Projectors embodying many new and exclusive features. Send for FREE Circular No. M3 giving full details and prices.

AMPRO CORP. 2839 N. Western Avenue,
 CHICAGO, ILLINOIS

NEWS PHOTOGRAPHERS WANTED

EARN GOOD MONEY IN YOUR SPARE TIME
TREMENDOUS DEMAND FOR INTERESTING PHOTOS
 We now have a place in our expanding organization for ambitious men and women who are interested in building up their income . . . Write immediately for our interesting pamphlet.

PRESS CARDS
 Distributed to All Members
GENERAL NEWS SERVICE
 807 Fifth Ave., Dept. M2, New York, N. Y.



**WAHL AUTOMATIC ELECTRIC
 TIME SWITCHES**

To control enlargers, exposures and numerous other devices where timing is necessary. Has additional focusing switch for separate control. \$10.00 Special timers made for radio control and other electrical devices—Write today for Catalogue.

WAHL EQUIPMENT CO.
 814 Broadway, New York, N. Y.

MARCH Star Values

Contameter for Super B old model	\$ 35.00
Sonner, 85MM, F2	120.00
Hektor, 135 MM, F4.5	40.00
Leica D, F2.5 Hektor	70.00
Rolleicord, F4.5, Model I	50.00
Voight. Bessa, F3.5 Voigtar, Compur.	33.50
Super Balding, 35mm, F2.9 Trioplan.	37.50
Bantam Special, F2 Ekter	45.00
Graflex Ser. B., 4x5 R. B., F4.5 K. A.	55.00
Speed Graphic, 4x5, F4.5 Tessar, Compur,	
Range Finder	100.00
Voigtlander Bessa, 2 1/4x3 1/4, F3.5 Skopar.	33.50

10-Day Money Back Guarantee.

HENRY HERBERT

483 Fifth Avenue

New York City

Minicam's
Cash Prize
Contests

YOU ARE invited to participate in the production of MINICAM by submitting articles or photographs.

In addition, special photograph competitions are run each month. Read the contest, for example, in connection with the article, "Ideas Illustrated," in this issue.

Other cash prize competitions now running, as announced in previous issues, are:

"Short-Short Story Contest." For groups of 3 to 5 pictures telling a story. \$15 will be paid for each reproduced in MINICAM. See page 13 of January MINICAM and also one of the winners reproduced in this issue.

"Table Top Contest." Photos should look like "the real thing" as described in the article, "Technique of Illusion," in February MINICAM. \$5 for each entry reproduced in MINICAM.

"Wedding Picture Contest." \$25 for best series of about five photographs showing a wedding ceremony. The pictures should give a unified impression of a wedding or incidents involved. It may take place in church, castle, or cottage.

Entries for each of the above acceptable up to April 15, 1938. As many photos as desired may be sent in, but each photograph can be considered for but one contest.

Pictures may be made with any camera, film, etc. It is not necessary that you do your own developing.

When human subjects are used, you should be prepared to send a statement of release for publication. If this statement is needed, a "model release" form will be mailed to you.

If prints are to be returned, proper post-

age should be enclosed. MINICAM cannot assume responsibility for pictures lost. The sole judges shall be the editors of MINICAM and their decisions shall be final.

Prints should be no smaller than 4-5 nor larger than 8x10 inches, preferably glossy, unmounted.

On the back of each print or on attached sheet write (1) *Name of Contest*. (2) Your full name and address. (3) Description of unusual details involved in making the photograph.

Address: *Name of Contest*, MINICAM MAGAZINE, 22 East 12th Street, Cincinnati, Ohio.

"TRICK EFFECTS" CONTEST \$10 WINNER



• GHOSTS, submitted by David G. Richmond, State St., Boston, Mass.

THESE contests are one of MINICAM's means of working with readers who would participate in making MINICAM a camera-user's magazine.

Above is a winner in the "Trick Effects" Contest. A simple double-exposure was enough to turn the trick and win \$10.

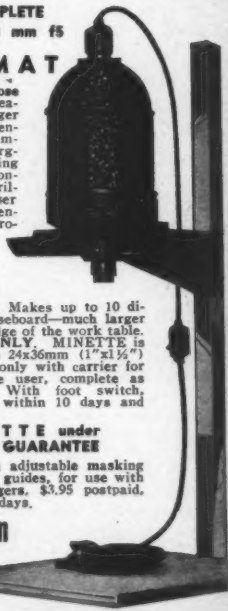
On page 24, you will find a "Short Short Story" contest winner which drew \$15.

Study winning photos which appear each month in MINICAM and see if you can do as well—or better.

MINETTE for 35 mm Negatives

\$15.50 COMPLETE
with 50 mm f5
VELOSTIGMAT

Here's a super value for those who do not demand all the features which make Min Larger the last word in miniature enlargers. And, for Argus camera users: a complete enlarger, at the price of one using the camera. Sturdy, vibration-proof supporting bracket; brilliant, intense, double condenser illumination; 50 mm Wollensak Velostigmat f.5, in micro-meter focusing mount, with iris diaphragm; all-metal negative carrier taking single negatives or rolls; swinging red filter; 12"x15" baseboard; upright; cord with switch. Makes up to 10 diameter enlargements on baseboard—much larger projecting the image over edge of the work table. **FOR 35mm NEGATIVES ONLY.** MINETTE is made to handle only up to 24x36mm (1"x1½") negatives and is furnished only with carrier for 35mm film. Direct to the user, complete as above, \$15.50, postpaid. With foot switch, \$17.25. Subject to return within 10 days and money cheerfully refunded.



Send for MINETTE under
OUR MONEY-BACK GUARANTEE

11"x14" paper holder, with adjustable masking bands and adjustable margin guides, for use with MINETTE or other enlargers, \$3.95 postpaid, subject to return within 10 days.

Leonard Westphalen

75 E. Wacker Dr.
CHICAGO, ILL.

Made in U. S. A.
by Westphalen

35 MM. ARGUS, ETC.
LEICA
ENLARGED 3x4 PRINTS

Send us your 35mm films for fine grain developing, 25c roll. We print all good frames to 3x4 at 4c ea. Satisfied customers from Coast to Coast. We mail G. O. D. if you prefer.
MULSON'S, INC.
1490 Stratford Ave., Bridgeport, Conn.

4¢
EACH

LEICA and CONTAX USERS

"Load Your Own"

35mm Motion Picture Negative Tested and Guaranteed

EASTMAN **25 ft. for \$1.00** DU PONT

SUPER X **4c per additional foot, postpaid in U. S. A.** SUPERIOR

CAMERA EQUIPMENT, INC. 1600 Broadway New York City

MOGULLS MONTHLY BARGAIN OFFERS

MONEY-SAVING. EVERYONE OF THEM! Robot, \$2.95. ER Case \$129.50; Super Ikonta "3" 2.8, ER case \$104.50; Contax 1, Tessar, 2.8, \$79.50; Super Ikonta "A" Tessar, 2.8, Compur, \$54.50; Sales Maximator "B" 2x12, \$135; Leica "0" 2.8, ER case, \$135; Auto Graflex, 4x5, \$19.75; Kodak Volunda 4.5, \$14.95; Foth Derby 2.5, \$26.95; Auto Graflex \$14.95, 2.8, \$22.95; Retina, 2.5, Compur, \$31.50; Duo "320" 2.5, Compur, \$34.50. AGS Memo Camera 16.5, \$8.95. ARGUS CAMERAS in stock.

TRADES ACCEPTED

Magnificent bargains in latest bargaingram — FRANK Still, Movie, Miniatures, Camera, Equipment, Accessories. Write today.

Buy On Our
10 DAY TRIAL PLAN

8-16MM RENTAL LIBRARY

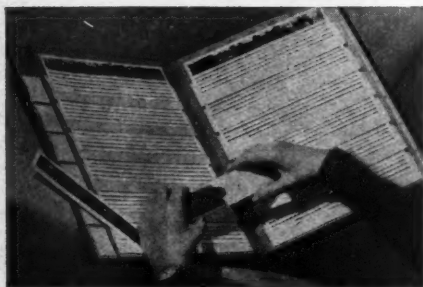
Rentals everywhere!

Membership free!

MOGULLS 1844-N Boston Road New York, N. Y.

FOTOFOLIO

**-SAVES TIME, PRINTS
and NEGATIVES!**



Fotofolio keeps miniature prints and negatives together—for easy cross reference. Protects negatives against injury. Holds 36 picture strips and 36 negative strips to a page . . . 1724 snaps in one Fotofolio. • Mounting pictures is a cinch. You just lift the gummed tabs cut into the cloth page—moisten and press against the prints. That's all. • Filing negatives is just as easy. Dust-proof negative envelopes are mounted under every 6th strip. Transparent glazed paper—not cellophane—protects each negative separately. No hunting around when you want duplicate prints. • Ask for Fotofolio at any up-to-date shop. Write for illustrated booklet showing "There is a Fotofolio for every size amateur snapshot."

FOTOFOLIO

E. E. MILES COMPANY, SO. LANCASTER, MASS.

Learn Photography at HOME

Splendid opportunities. Prepare quickly in spare time. Easy method. No previous experience necessary. Common school education sufficient. Many earn while learning. Send for free booklet "Opportunities in Modern Photography"—particulars and requirements.

AMERICAN SCHOOL OF PHOTOGRAPHY
3901 Michigan Avenue Dept. 1943 Chicago, Illinois

DON'T TAKE CHANCES, Take Pictures.

DRAUCKER PHOTO FLOOD CALCULATOR (60c) gives proper lighting and correct exposure data for either movies or stills. Every reading checked by actual photos. Free instruction booklet with each calculator.

DRAUCKER PHOTO FLASH CALCULATOR (50c) is the key to proper flashlight lighting. No more guess work, no more lamp waste. Correct lamp size, diaphragm value and number of lamps calculated in less than 2 seconds.

Know your lighting. At your local dealer's or send direct to

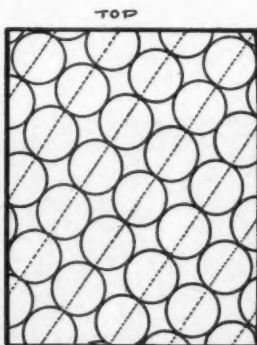
MUNDER ELECTRICAL CO.

95 ORLEANS STREET, SPRINGFIELD, MASS.

Photographer's Nightmare

(Continued from page 63)

thereafter, the focus was kept constant, the $f8$ stop being held to offer sufficient depth to take care of the variation in the position of the successive images. Before the first image was exposed, an outline of the curvature of the saucer was indicated in ink to show its relative position on the film. This had to be repeated with each exposure since it was necessary to mark off the position occupied by each image so that succeeding exposures could be intelligently placed in the film space.



- The desired design was outlined on a piece of tracing paper and placed over the ground glass finder as a guide in focusing the consecutive "cup" exposures.

The first two "rows" of cups and saucers were arranged horizontally, the other images diagonally, the lines on the ground glass having been drawn before the exposures were made and served as a guide in placing the images. Each image in the diagonal lines was so arranged that the edge of the saucer touched the line. These diagonal lines simplified matters greatly, as can easily be seen.

Finally, the camera was moved closer to the subject in order to get a large image of a cup and saucer literally flying at the head of the dreamer. The cup was set on its side in order to aid this effect. This part of the job could have been improved upon. I wanted to get a brightly lighted cup and saucer and therefore gave it twice normal exposure. I admit three or four times normal would have been better. On the other hand, I

did not wish altogether to block up the images behind it.

Next I started to make Fig. 3. One of the reasons I did not wish to include the human subject in the same negative with the cups and saucers is that I had no model to work with at the moment and had to use myself. Since I had to get some sort of horrified expression into my visage and was not sure just what would show in the negative, I thought it more advisable to take the picture separately and then combine the two negatives in printing.

Here, again, I had to have selective, therefore, spotlight, illumination in order to include only the image of myself in a corner of the film, leaving the rest of the film absolutely transparent to allow the cup-and-saucer image to print through unimpeded. This was fairly simple to accomplish.

Using a low bench for a support, I set down a small suitcase having a height approximately that which I intended to occupy in the planned pose. Having arranged the focus and the position of the image, I was ready to take my own picture. The problem of how to make sure I would be properly lighted and suitably horrified was solved by setting up a mirror. To make the picture entirely realistic, I donned a pajama shirt and lay me down, having previously attached an extension cable release to the regular cable release on the camera. This allowed me the opportunity of tripping the shutter at the moment when I thought I looked as horrified, under the circumstances, as I could be. Raising my free hand to "shield" me from the avalanche and cast an eerie shadow on my face, I tripped the shutter with my other hand and somehow came through the ordeal after a 1 second exposure at f/6.8.

Having developed the films and seen them "come out" as planned, I was ready for the printing, rather the enlarging.

By the test strip method I found that the cup-and-saucer negative when printed alone required a 15-second exposure, while the dreamer negative, printed

1938 SPEEDGUN



Closeup of 1938 Universal Speedgun with Super Ikonta B. Note method of synchronizing through back release button. No work to be done on front shutter—no fusing or timing between exposures. Photoflash operation as easy as regular snapshooting!

1938 Universal features include, ● New, Armored Kinkless cable release ● Separated trippers for special lighting effects and conversion to various shutters ● Three foot extension for side lightings ● Greater efficiency and greater value but no increase in price ● All of the dependability which makes a Mendelsohn Speedgun the 9 out of 10 choice of press photographers.

Test the Universal Speedgun at your dealers. Send 3c stamp for handy pocket slide scale of correct flash exposures. Other Speedguns are Model C; Model G (for Graflex).

S. MENDELSON

202 E. 44th St.

NEW YORK

OUTSTANDING VALUES

8x12 Precision Custom Built, Double Extension, Meyer Goritz F4.5 Heliopan lens, Double Anastigmat, Film Pack Adapter, Ground Glass Back, 3 Plate Holders (New)	\$44.50
Carl Zeiss Super Ikonat A. F3.5. Tessar and E. R. case, like new	65.00
Certo Dollina III, F2.8, Zeiss Tessar, Coupled finder, like new	69.50
New Model Rolletcord C. Z., F3.5, E. R. case (New)	63.50
Super Sport Dolly 2 1/4x2 1/4 and half 120 F2.9 Meyer Goritz lens, compur shutter, delayed action (New)	31.50
Makina Fuji Vest Pocket, Film Pack Adapter and Ground Glass Back, F3 lens (Used)	10.50
Leica Model G, F2 Summar lens and case, calibrated in meters	132.50
Leica Model G, F2 Summar lens and case, calibrated in feet	142.50
Leica Model G, F1.5 Xenon lens and case, calibrated in feet only	192.50
Leica Model E, F2.5 Hektor lens, Range Finder, and Case (Like New)	61.50
Contax Model II, F2 Sonnar lens and case	158.50
King of them all - Bag-Exposure, most sensitive meter made	19.50
Foth Derby, F2.5 lens (New)	26.50



Cameras bought, sold and exchanged. Prompt attention given to mail orders.

ALADDIN CAMERA EXCHANGE

4 East 32nd Street, New York City, Dept. M

... Here is the one -

FINE GRAIN DEVELOPER



GDX

EXPOSURE COMPENSATING
FINE GRAIN DEVELOPER

FOR *All* YOUR
FINE GRAIN WORK

- Ultra fine grain
- Complete gradation
- No loss in emulsion speed
- Maximum shadow detail
- Excellent for under exposures
- Economical: 32 oz. develops 17 rolls of 35 mm.

32 oz. bottle \$1.10



FINK-ROSELIEVE CO. INC.

110 W. 42nd STREET

NEW YORK CITY

SHIP OR FILE YOUR SALON PRINTS SAFELY

Our sturdily made vulcanized fibre cases insure safe delivery and filing of your prints. Featuring metal corners, carrying handle and center strap.

16 1/2" x 20 1/4" x 1", price	\$2.00
16 1/2" x 20 1/4" x 2", price	2.85
16 1/2" x 20 1/4" x 3", price	3.10

All cases postpaid. Send cash or money order to

AMERICAN TRUNK & CASE CO.
20 South Wells, Dept. M Chicago, Ill.

Back Copies of MINICAM

We Have Some Copies Left of Each Issue from Oct. (Vol. 1, No. 2) through February

25 CENTS EACH, POSTPAID

Order from

MINICAM MAGAZINE

22 East Twelfth Street

Cincinnati, Ohio

"When the boys get together...



and informally discuss a problem or two... and maybe a "solution"... ask one of our customers why he's sold on our

Ultra FINE GRAIN FINISHING
or better yet... mail us a roll now, and see for yourself...

Fine grain developing, per 35 mm. roll 25¢
Contact prints on one strip, each frame 2¢
1/2" x 1 1/2" enlargement 7¢

Berkey PHOTO SERVICE

264 CANAL ST.

DEPT. M-3 NEW YORK

SERVICE MAY BE HAD THROUGH OUR NEW YORK DEALERS

alone, also required about this time. When projected together, however, a longer exposure time was required to bring up the image of the dreamer. An alteration in the original plan made it necessary to project the images in reverse position, having the emulsion face away instead of toward, the lens.

To provide a longer exposure for the corner where the dreamer lay, an appropriately shaped piece of cardboard shaded the rest of the picture while this corner was given an added exposure. However, this failed to give the effect wanted, since the eyes did not show through clearly enough. Finally, I decided to project the negatives separately. In projecting the cup-and-saucer negative I shaded the dreamer portion on the paper and in projecting the latter, I shaded the part already exposed. This gave me Fig. 5. To obtain the effect, shown in Fig. 1, I allowed some details from the cup-and-saucer negative to be exposed in the dreamer corner and then shaded this part to continue the exposure for the rest of the negative. Then I removed the cup-and-saucer negative and substituted the dreamer negative, shading the rest of the paper during the exposure of this negative.

Because of the variations possible in the printing of the subject, a number of enlargements were made to determine which one told the story most suitably. Should I hold back the area of the dreamer entirely and print in only his figure or should I allow the cups and saucers to print lightly through? Each had its advantages and each is shown here. Which do you prefer? Fig. 5 gives the impression of a man in a dark room, appropriate for a sleeper. On the other hand, Fig. 1, showing some portions of the cup-and-saucer images, seems to me to convey more clearly the idea of the picture. The man not only is buried under the avalanche but the swath of white cup across his eyes aids the impression of horror, real movie-fashion.

This describes the method and the rest is up to you.

Long Range Snapshooting

(Continued from page 70)

be O. K. for all objects at a mile. So, make all your exposures at a certain distance together, instead of jumping near and far and back again. It saves time.

Now, having focused the 'scope and aligned the sights, set the camera at infinity, draw it back on its slide bar, swing it up into position and move it forward into connection with the eyepiece of the telescope. Tighten slidebar lock nut and tripod socket bolt. Aim 'scope through sights and shoot at, hold your breath, ONE TWENTY-FIFTH OF A SECOND. Yes, that's right, 1/25th. Having been sadly misled by numerous so called lens experts regarding the light reducing properties of a telescope, I made a beautiful collection of black spots shooting all the way from ten seconds to a minute and a half. Taking my fate in my hands I boldly shot some at one, three and five seconds. Still overexposed. All the shots shown were taken on a bright day through a bad city smoke haze at 1/25th. You can disregard your lens stops as the eyepiece of the telescope is a small enough stop. Shooting this fast also eliminates the possibility

of vibration smearing your negatives. You can even hold it up like a rifle and shoot.

I wish you a heap of success. I've had a pile of fun with mine. Let's hear of someone taking close ups of public events—from the cheap seats.

On a bright day and up to a hundred yards the darn thing might work at 1/100th or 1/150th. That would let us in on some athletic events. Maybe 1/200th would get something on hypersensitized film. I haven't tried it yet—but you bet I will.

(For further information on the fascinating subject of telephotography, see "Make a Big Bertha of your Minicam" in February MINICAM.—Ed.)

Now You Can Own a **Leica.** The Original Miniature **Candid Camera**

Ask your dealer about the new Leica
Time-Payment Plan, Today.
E. LEITZ, Inc., 730 Fifth Ave., N. Y., Dept. 8

DUFAYCOLOR

COLOR PHOTOGRAPHY SIMPLIFIED

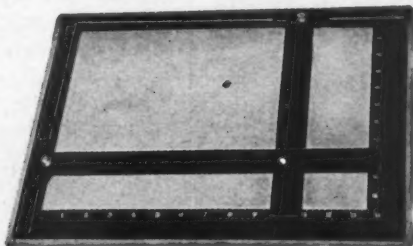
9 Standard Sizes and Types
4 Specials

DUFAYCOLOR, INC., RCA BLDG., N.Y.C.

The New METALARGER

ALL METAL ENLARGING FRAME

- Adjustable
- White Focusing Surface
- Accurate
- Durable



Amazingly
Low Priced

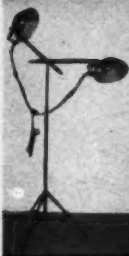
\$3.75

Today's greatest value in a precision-made enlarging board. This fine darkroom necessity has features found only in enlarging boards that sell for much more than our low price. It is rigidly constructed of metal . . . there are no wood parts to warp or split. It has a flat white surface for focusing that assures you of needle-sharp images. The well-planned locking devices make for secure alignment of marginal controls and sliding arms. Will make enlargements up to 11 x 14 inches.

HENRY HERBERT, 483 Fifth Avenue, New York City

YOU CAN PAY MORE -

But will you GET more?



For outstanding quality in Home Movie Screens, Reflector Units and Accessories, BRITELITE TRUVISION leads the way. Experts and amateurs alike endorse the exceptional values they offer.

DELUXE MODEL A SCREEN



No. 220 TWINFLECTOR

FREE bulletin No. MI-8 illustrates and describes the entire line.

Write for it today.

Motion Picture
SCREEN & ACCESSORIES CO., INC.

120 WEST 24th STREET NEW YORK CITY



SHARPER NEGATIVES BETTER PICTURES

with the **NO-JAR** Pat. Pending
CABLE RELEASE ATTACHMENT
● Mouth operated. Both hands free to hold camera firm.
● Eliminates all tripping jar. For all cameras. 35c, postpaid.

ROBT. J. REYNOLDS

Dept. M, Box 26, Trotwood, Ohio

CHECK THESE LIKE NEW VALUES!!

KODAK RETINA II, CASE, F/2.8.....	\$47.50
FOTR DERBY F/3.5-\$16.45, F/2.8.....	22.35
DOLLINA II RABIONAR F/2.9.....	42.75
ARGUS "A5" FULL FOCUSING.....	12.65
MINI-PHOTOSCOP EXPOSURE METER.....	11.75

Other like new values—write us camera wanted. All sold on 10 day money back trial. Liberal allowance on trades.

JAMES CAMERA COMPANY—Dept. IM

519 West 3rd Street, Elyria, Ohio

A Handsome Permanent Binder for MINICAM



ONLY
\$1.00

10 Days
Free Trial

The ONLY binder that opens flat as a bound book! Made of durable imitation leather, it will preserve your reference journals and valued general magazines permanently.

Each cover holds 12 issues (one volume). Do your own binding at home in a few minutes. Instructions easy to follow.

Binders made for all types of magazines.

Write for circulars

Suckert Loose Leaf Cover Co.

234 W. Larned Street

Detroit, Michigan

Ideas, Illustrated

(Continued from page 18)

silly acting in front of the camera, but soon he became so enthusiastic and wrinkled up his face and gesticulated so energetically that he was exhausted when the ordeal was over—and so was I.

You don't have to feel the least bit self-conscious about imposing on your models. If you attend some of the swanky Park Avenue parties these days, you will find playwrights, statesmen and social-registerites crawling on their bellies, hanging from chandeliers and going through other insane antics for the sake of a parlor pastime called "The Game," a modern version of Charades, in which catchwords and slogans are photographed.

And don't forget the Picture Hunt, another society favorite. The guests are handed cameras and assignments. Out into the cruel world they are sent to illustrate such things as, "Hold Everything," "Don't Look Now," and "This Is the Life." "Holding the Bag" took honors with a shot of two men in evening clothes industriously milking a cow.

Here are a few suggested catchwords you might try to illustrate with your minicam: Getting to the point; Bottoms up; Give him the works; Wiping the slate clean; Going off the deep end; Hitting the jackpot; All burnt up; A tough nut to crack; Needle in a haystack; On the nose; Supply and demand; All things that go up come down; Situation well in hand; Speaks for itself; The last word; Putting up a front; It's done with mirrors; Going places; In step; Uneasy lies the head; Toeing the mark; Easy as pie; Worth waiting for; Gilding the lily; Facing facts; and Sticking his neck out.

Idiomatic expressions, like the above, and the photographs to represent them, are effective because of coincidence—picture and phrase each conveys the same meaning to the reader, and both together furnish a "one-two" punch making the idea a knockout.

Another sort of representation is found in "Moon over Manhattan" and "Pipe

Dream," discussed earlier in this article. These are effective because of their connotations, and usually some device such as double exposure must be resorted to to convey the desired meaning.

Whichever type you try, remember that the resultant photograph not only must convey a special meaning, but also must be a good composition worth looking at for its own sake. And don't overlook your chances in the Photographic Idea Contest announced in this issue.

\$\$\$ With a Minicam

Photographing homes and gardens may be a year round source of income for any owner of a miniature camera.

Selecting an interesting neighborhood, I shoot every address, using the simplest rules of composition, and always having in mind the entrance or doorway. Lead the eye through the portals to the door step. This is the center of interest.

With practice fifty photographs an hour are possible. After four hours work out doors I have enough negatives to keep me busy the rest of the week. I number the films and keep an accurate record of addresses.

I make 5 x 7 prints and mail each print with a letter like this: "Enclosed please find a photograph of your beautiful home. If you wish to keep it the cost is only 50 cents. You may have additional prints at 25 cents each. You are under no obligation to buy if not satisfactory."

When I make delivery myself I never put the envelope in the mail box, but usually put it under the door or near the knob. The next day I call and say, "Good morning. I left a picture of your beautiful home for approval."

I find that 65 per cent of the prints I send out are purchased and my work has led real estate agents, architects, and others to give me special assignments for them.

—T. V. SMALLEY.

REMOVING LETTERING FROM FLOOD LAMPS

Various electric lamps, including Photofloods and Superfloods are sometimes used in the enlarger for illumination in place of the regular lamps. The lettering usually printed upon the base of the globe offers obstruction to a clear light on the paper easel.

To remove such lettering or marks, merely rub the end of the lamp with nitric acid. Pour a small amount of nitric acid upon a wad of absorbent cotton and wipe the glass surface affected. NOTE: Be sure to rinse the cotton thoroughly in water after the wiping has been completed . . . nitric acid and cotton is the base of gun cotton. Accidents may happen . . . a cigarette tossed carelessly upon the nitric acid soaked cotton. . . .

SPEAK the one and only UNIVERSAL LANGUAGE fluently by using WONDERLITE

• PICTURES—the one and only universal language! Camera enthusiasts and picture lovers everywhere are finding WONDERLITE Photographic Lamps an invaluable aid to improving their art in expressing themselves in that language.

• The "WONDERLITE SERIES" embraces a light for every photographic need. Filter Flood, Picture Flood, Dufaycolor Filter Flood, Opal Flood—all give constant actinic value during rated life—whether the FIVE HOUR, TEN HOUR, or FIFTEEN HOUR size. Longer life—therefore lower cost per hour!

• YOU, too, can take BETTER PICTURES—by using WONDERLITE PHOTOGRAPHIC LAMPS.

{ See your dealer or write us for information about the various groups in the WONDERLITE SERIES. Ask for the new long-life Wonderlite Opal Flood and Enlarging Lamps. }

WONDERLITE CO.

West Orange,

New Jersey

CAMERA BOOK

FREE!



Explains latest inventions, methods in Photography and Home Movie Making, for film and prints. Offers hundreds of amazing money-saving bargains in still and movie cameras, lenses, films, etc. Used equipment accepted in trade. Satisfaction guaranteed! WRITE FOR FREE BARGAIN BOOK!

CENTRAL CAMERA CO., 230 S. Wabash, Dept. 123 Chicago, U.S.A.

MOVIE CAMERAS PROJECTORS 10¢ A DAY

Nationally Advertised! 10-Day Trial! Entertain with real movies of children, sporting events, trips, etc. Latest model Movie Cameras and Projectors, 8MM and 16MM sizes. For homes, business, churches, schools and clubs. All accessories. Satisfied Customers throughout the World. MONEY BACK 10-DAY TRIAL on all Cameras and Projectors. SMALL DOWN PAYMENT. Balance AS LOW AS 10¢ A DAY. FREE details, write: DON ELDEN'S HOME MOVIES, 735 BOSTON ST., Dept. G-3 BOSTON, MASS.

HABER & FINK VALUES! NEW AND USED SPECIALS

Take advantage of these outstanding "Buys" Now!
6x6 cm. TWIN REFLEX Camera, F4.5 lens. . . . \$17.90
6x6 cm. PILOT REFLEX, F3.5 lens. . . . 25.00
9x12 cm. MAXIMAR C. Z. Dominar, F4.5, Compur Shutter . . . 29.90
9x12NAGEL, F4.5 Dr. Nagel lens, Compur Shutter . . . 29.90
6x6 ROLLEICORD, F4.5 lens. . . . 42.50
V. P. EXAKTA, F3.5 Ihagee lens. . . . 52.50
V. P. EXAKTA, F2.8, C. Z. Tessar . . . 67.50

Send for our New Bargain List M

10 DAY TRIAL BASIS! Many other outstanding Bargains. We also buy and exchange. Mail orders invited. "Most complete Camera supply house in the East!"

HABER and FINK CAMERA EXCHANGE, INC.
16 Warren St., N.Y., BR. 7-1230

The IDEAL ENLARGER

- Accommodates 35 mm., 3x4 cm. (half V. P. or Santam Special) and 4x4 cm. negatives.
- Special type non-heat conducting bakelite negative carrier eliminating the use of dust-collecting glass pressure plates.
- Equipped with a 3 1/4" f:4.5 uncemented four-element Senar objective with micro-focusing adjustment, including built-in iris.
- Takes standard 60 watt or 75 watt enlarging lamp.
- Linear magnification about 8 times on the baseboard. Greater magnification possible through floor or wall projection.
- Single condenser lens system.

Complete with objective and suitable mask **\$44.50**

These modern Czechoslovakian enlargers are substantially constructed with emphasis on precision, stability, durability and convenience in operating.

SOLD ON OUR USUAL 10 DAY TRIAL BASIS

REMEMBER—We give you a liberal trade-in allowance on your old camera towards purchase price of a new one.

Many other exceptional values in enlargers, all offering a maximum degree of optical and mechanical precision.

ABE COHEN'S EXCHANGE, Inc.

"The House of Photographic Values"

120 FULTON STREET, NEW YORK

MORE THAN CONVENIENT



Thalhammer Midget Pano-Tilt Head

Smooth Action — Positive Control

Locks instantly in any position. Allows you to concentrate on the pictures at hand. A reproduction of our \$35.00 Professional Model. A necessity for Eastman, Contax, Leica, Graflex, and other miniatures, also for 8 mm. Cine Cameras.

Weights only 10 oz. Fits any tripod.

ONLY \$8.50 At Your Dealers

THE THALHAMMER COMPANY
121 S. Fremont Ave., Dept. M3, Los Angeles, Cal.

NATURAL COLOR 5x7 PRINTS \$3.95

8 x 10 PRINTS \$5.00

From your Minicam

KODACHROMES

Mounted, finest quality guaranteed, or your money back.

RUTHENBERG CO.

"The Leading Makers of Natural Color Photographs"
4961 Sunset Blvd., Dept. M3, Hollywood, Calif.

The Bickley Shutter-Tester

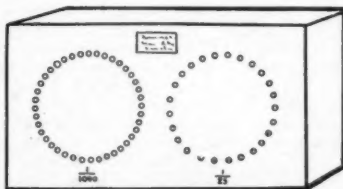
If you live near Philadelphia, you may get your camera shutter tested without charge.

By H. BICKLEY

IT is not easy to determine just how long the shutter of a camera is open when it snaps. Most photographers set the pointer on the shutter at 1/100 and blithely push the button without thought that shutters gradually slow up as springs weaken, and bearings gum up.

This problem presented itself to inventor H. Bickley, of Bala-Cynwyd, Pa., and the result was the "Scittometer." To test a camera, it is necessary only to turn on the Skittometer and take snapshots at 1/25th, 1/50th, etc.—all of the speeds on the shutter.

The film is then developed, and the resultant negative will show a group of dots such as in



- The "Scittometer". The light in the left hand circle changes each 1/1000th second. The right hand circle, changing each 1/25th second, tests shutter speeds up to 1 second.

the illustration. The left hand arc, shown on this page, contains 25 dots, each representing 1/1000 or a total of 1/40th of a second. The shutter being tested, a new one, was set for 1/50th. The owner thereafter calculated exposures on the basis of 1/40th.

The other arc shows four dots; the shutter therefore was open for 4/25th, or approximately 1/6th second. This was the 1/5th speed mark.

A new shutter, on being tested, gave the following results:

Setting of Shutter	Actual Time of Shutter
1/250 sec.	1/200 sec.
1/100	1/100
1/50	1/40
1/25	1/28
1/10	1/11
1/5	1/5.5
1/2	1/2
1 sec.	1 sec.

In appearance the Scittometer is a box measuring about four feet long by one and a half

feet high. On the front are two circles of holes about $\frac{3}{8}$ " in diameter, the diameter of the circles being about a foot. One circle has more closely spaced holes than the other. These holes are covered with translucent material so that the light inside the box can shine through the holes. The Scittometer is set up on the end of a table about four feet from the camera to be tested. A location where there is a low light intensity is selected for the tests. Two switches are provided on the Scittometer so that either set of holes can be illuminated independently.

On starting up the equipment optical devices are put in motion so that only one hole is il-



• A Test negative. The number of dots gives the shutter speed.

luminated, then the next hole is illuminated and so on.

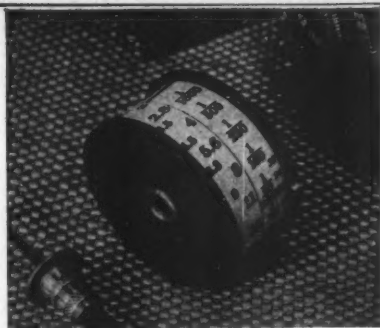
For the benefit of amateurs Mr. Bickley has loaned a Scittometer to the Franklin Institute of Philadelphia, where it is in operation and shutters may be tested by visitors without charge. This display has created a great deal of interest, many cameras having been brought from great distances to be tested.

(For those who make their own, a simple shutter speed test will be described in a future installment of "Make Your Own Tests" series of articles by MINICAM's technical editors. The first of the series will be found on page 64, this issue—Ed.)

REMOVING SCRATCHES FROM NEGATIVES

A scratch on a negative often means discarding the negative. Providing the scratch is not too deep, it can be satisfactorily removed by rubbing lightly with jeweller's rouge and a bit of absorbent cotton moistened with carbon tetrachloride or Carbona. A light rotary movement on the scratched area will do the trick. The rubbing should be continued until the scratch disappears and, of course, it is necessary to stop and examine the progress being made from time to time.

This method is controllable and mechanical, hence offers best results in saving what might otherwise be a ruined negative. The rouge should be the red kind, such as is used for polishing gold, and not the green variety which is used for platinum.



Actual Size

MAXIM Exposure Meter

Made in U. S. A.

Instantly gives correct exposure for any camera, movie or still, under all light conditions. Includes readings for new ultra-speed films.

Embodying a new optical principle, the MAXIM is unquestionably the most scientifically dependable visual meter on the market . . . simple, speedy and compact, weighs less than an ounce!

\$1.75 with aluminum case

At your dealer or send for descriptive literature M.

Manufactured by Maxim Instrument Co.

RAYGRAM CORPORATION

Sole Distributors U. S. A.

425 Fourth Avenue,

New York City

THE CAMERA FAN'S GREATEST THRILL—

and it is so easy to do!

FEDERAL low priced enlarger has the superior refinements found only in much higher priced instruments, at a price everyone can afford. Precision built throughout, fully guaranteed. Takes all sizes of negatives from 35 mm. to 2 1/2 x 3 1/4 inches inclusive, and equivalent sections of negatives up to 4 1/2 inches. Enlargements 2 to 5 times on baseboard. New book type carrier with curved supports. Can also be used as contact printer.

At All Good Dealers

Price for model 505 \$9.95 complete. Includes F-8 Achromatic Lens, baseboard, switch, cord, instructions. \$10.75 west of Miss. Fully guaranteed.

Federal Stamping and Engineering Co.
24 Lafayette Street, Brooklyn, New York

- GET YOUR NEW CAMERA NOW
- PAY FOR IT AS YOU USE IT
- ALL MAKES—ALL TYPES
- UP TO 18 MONTHS
- TRADES ACCEPTED

NORTHEAST PHOTO SUPPLY CO.

Portland

Dept. M

Maine

MINICAMERAMEN--what do you want most in a FLASH BULB?

Convenience? **SUPERFLASH No. 1** is the smallest ever made.

All around dependability?



SUPERFLASH No. 2

is standard for all types of film, all types of photography.

Greater illumination?

SUPERFLASH No. 3

is a powerful commercial bulb—perfect for wide area and difficult shots.

All three sizes are perfect for focal plane cameras. All give you the advantage of the hydronalium wire light-producing medium for greater usable illumination—positive, uniform—results even at high shutter speeds—perfect synchronization with your focal plane camera. At your photo supply dealer.

WABASH

Photolamp Corp.
Subsidiary of Wabash Appliance Corp.

335 Carroll Street
Brooklyn, N. Y.



PHOTO ENLARGER \$5.94

Money back guarantee.

A REAL Photo Enlarger that does fine work. Focuses automatically. Also COPIES and has a Contact Printer and Retouching Table. Interesting circular free. Only \$5.94 complete. Lens included. IDEAL-E, 122 E. 25th Street, New York

CHAMPLIN'S FORMULA NO. 15

Fine Grain Developer

AT ALL DEALERS

Look for the Champlin Signature on the label

SEND FOR FREE FOLDER

CHEMICAL SUPPLY CO.

6324 Santa Monica Blvd. Hollywood, Calif.
"Sole Authorized Manufacturer"

A CANDID CAMERA
For 10 days ON APPROVAL!



Speed... Action... Excitement

Catch it all with this mighty little Candid Camera! You won't believe it possible at this low price, so we want you to try it out at our risk! Take all the pictures you want, under any conditions. Test out the remarkable clarity of the lens... the accuracy of the view finder. Compare it in action with any of the cameras selling for \$10 or \$20. Then, if you do not think this is the most remarkable camera bargain you ever saw, it won't cost you a penny! Fully corrected Wollensak 50 M.M. lens. Speed shutter. Fixed focus makes it possible to get sharp pictures at all times. Telescopic finder. Tripod Socket, and Cable Shutter Release. Uses economical 127 V.P. film in color or black and white. Has Compartment for extra roll of film. Enlarge clearly up to 8"x10". ORDER NOW for special introductory Price of only \$3.98 Post-paid. C. O. D. if preferred, plus postage.

CANDID CAMERA SUPPLY CO.

303 West 42nd St., Dept. 15, New York, N. Y.

BOOK REVIEWS

THE COMMAND TO LOOK, by William Mortensen, *Camera Craft Publishing Co.*, San Francisco, California, 190 pages, 56 full page illustrations, \$2.00.

This splendid pocket size book is Mortensen's formula for picture success. "Twelve years ago, although technically competent, I tried in vain to obtain notice for my pictures, to get them into salons or into print," he says.

"Then I found out that any picture that 'goes places' does so by following a definite psychological formula. This little book relates the discovery of the formula, and shows its concrete application in a series of prints that have won the approbation of publishers and salons. The book has nothing to do with technical problems, but is solely concerned with the making of effective pictures."

Mortensen claims the formula has wide applicability and that anyone of fair technical competence can use the formula to make his pictures much more effective.

NEWS PICTURES, by Jack Price, *Round Table Press, Inc.*, New York, 192 pages, \$3.50.

This book on the newspaper business tells how pictures are made—and how they are made to sell. The author, a veteran camera journalist, takes the reader from the news editor's desk to the cameraman on assignment and back to the printing presses. In technique and equipment and problems, *News Pictures* covers the field.

PRACTICAL AMATEUR PHOTOGRAPHY, by William S. Davis. *Garden City Publishing Co.*, Garden City, N. Y., 259 pages, 15 full page pictures, \$1.00.

Information about how to take good pictures with an ordinary camera is hard to find in a concrete specific form. This book tells the amateur what he wants to know about selection and arrangement of subject matter, light, lighting, lenses, exposure, developing, plates, films, printing, enlarging, papers and special effects.

"LEICA MANUAL" by Willard D. Morgan & Henry M. Lester, *Morgan & Lester, Publishers*, New York, 578 pages, illustrated, 6 x 8 1/2, \$4.00.

The **LEICA MANUAL**, 1938, contains everything that made previous issues so popular with miniature camera workers throughout the world, plus much new data and information. Its almost 600 pages and 450 illustrations, charts and tables are full of facts.

Augustus Wolfman, the editor of *Leica Photography* projects some new thoughts on the extremely interesting experimental field of Stereo Projection which in connection with recent trends in Color Photography is rich and abundant in possibilities for increasing realism in photography.

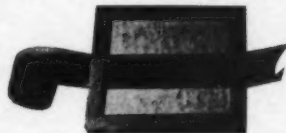
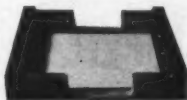
Completely revised Filter Factor data makes a most valuable addition to the volume, and takes into consideration the most recently made changes in the various modern emulsions and filters.

DARK ROOM TIPS

Strip-Printing

FOR filing purposes, you want contact prints and also want to keep each roll of film intact. I use an ordinary printing frame.

Cut a wide notch at each end of the frame, making sure that the bottoms of the notches are flush with the small ledge which holds the glass in place. If the distance from the ledge to the "floor" of the notch is greater than the thickness of the glass, film will be damaged when the back of the frame is clamped into position. Also,



cut the notches opposite each other.

In an emergency, a penknife will do the job, as one did on the frame here illustrated. For neater results, borrow a coping saw.

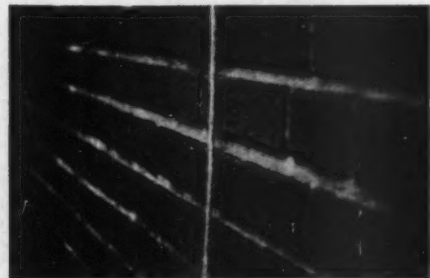
It is assumed here that the amateur is more interested in making his miniature contacts with quantity rather than with quality.

Check Your Rangefinder

A simple method is to suspend a heavy white cord or clothesline against the side of a brick house as shown below.

Open lens to full opening and set shutter speed according to light conditions.

Stand against the wall about 3½ feet from the string and focus your rangefinder sharply on the string and make an exposure.



Next, repeat the same operation at 10' and 20'. If the bricks are sharp directly in back of the string as shown your rangefinder is in agreement with the lens.

However, if the bricks are sharp at some point removed from the suspended string, the camera should be promptly returned to the manufacturer for adjustment.

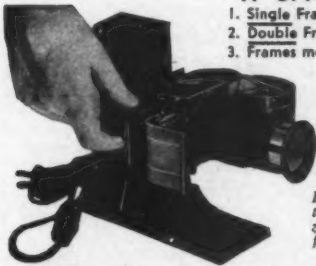
Do not attempt to adjust the rangefinder yourself.—Don Canady.

NEW THRILLS from "STILLS"

Are Yours With This Projector!

IT SHOWS—

1. Single Frame Strips
2. Double Frame Strips
3. Frames mounted in Glass



Head swivelled to show horizontal double frames.



Tri-Purpose PROJECTOR

Give your candid camera shots new beauty and realism! Project them life-size onto a screen with this handy Tri-Purpose Projector. Pictures are brilliant and sharply defined. See at your dealer's or write for interesting free folder "New Thrills from Stills."

SOCIETY FOR VISUAL EDUCATION, INC.
Dept. M, 327 S. La Salle Street, Chicago, Ill.

Calling all
MINICAMERS

Your 35 MM roll of film fine-grain processed, and each shot enlarged to approximately 3 by 4 inches \$1.00 for only

Immediate and guaranteed service.

Wrap \$3 bill around roll of film (for C. O. D. plus postage) and mail NOW!

MINILABS
Box 485 N. 4th St. P. O.
New York

TYPICAL PENN CAMERA VALUES

(All Like New)

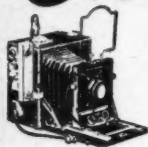
SUPER-IKONTA "B", Tessar F2.8.....	\$80.00
SUPER-IKONTA "A", Tessar F3.5.....	52.00
CONTAX I, Sonnar F2.....	90.00
LEICA "D", Emar F3.5.....	60.00
KODAK BANTAM SPECIAL, F2 lens.....	63.00
8x12 VOIGTLANDER AVUS, F4.5 Skopar, compur.....	36.00
6x9 BEEBEE, dbl. ext., F3.5 Tessar, compur.....	40.00
SUPER SPORT DOLLY, 1/2 No. 120, Trioplan F2.9, compur.....	27.00
FOTH DERBY, F2.5, new.....	34.50

(Sold subject to a 10-day trial)



PENN CAMERA EXCHANGE, INC.
120 WEST 32nd STREET, NEW YORK CITY

Now! BUY ALL FAMOUS CAMERAS AND EQUIPMENT *On Credit!*



Now! Just a few cents a day buys your choice of famous cameras...still or movie! Small down-payment, 12 months to pay. Trade-in your old camera...we'll accept it as down-payment if it has sufficient value.

12 MONTHS TO PAY!

Choose from Speed Graphic, Bantam Special, Leica, Contax, Rolleiflex, Exakta, and others. Movie cameras, enlargers, and projectors, too.



Write for details of our Time Payment Plan for responsible persons.

Financed Through Commercial Credit Co.

**LIBERAL ALLOWANCE
FOR YOUR CAMERA!**

Write Dept. KG-9

KLEIN & GOODMAN

18 S. 10th ST., PHILADELPHIA, PA.

REFILLABLE CARTRIDGES

for All 35 mm. Miniature Camera Users. Can be used over and over again. All metal.

75c Each, Postpaid, 3 for \$2.00

(FREE: Ask for a copy of Hollywood "PHOTO FLASHES" chucked full of low-down.)

COAST CAMERA COMPANY

Dept. H-3, P. O. Box 588, Hollywood Station
Hollywood, Calif.

Buy Engel

Pocket Art Corners

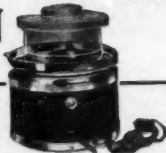
The real thing for mounting Snapshots, Cards, Stamps, etc. No paste needed. Nest - easy to use for mounting prints tight or loose. Sold at photo supply and album counters or send 10¢ today for pkg. of 100 and free samples.

10¢
BUYS
100

Engel Art Corners Co., Chicago, Ill.
Address Dept. 31D - 4717 North Clark St.

• FINE GRAIN

FASTER...EASIER...



• Successful fine grain development demands consistent agitation of developing and fixing solutions.

The IMPERIAL Agitator

... an unconditionally guaranteed precision instrument... shortens developing time and is indispensable for fine grain control. Accommodates all miniature tanks.

Price for 110 V. DC or 60 cycle AC. **\$16.50**
Slight increase for other voltages.....

CHESS-UNITED COMPANY

Mohawk Bldg., NEW YORK

Protect Bottle From Drippings

A piece of sponge rubber cut from an ordinary kneeling pad purchased in the 5 and 10



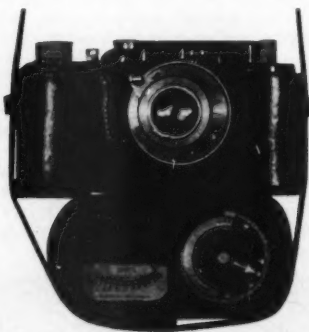
store makes a most efficient protection against drippings from pouring. A slit is cut in the center of the rubber slightly smaller than the neck of the bottle. The rubber is then stretched over the neck of the bottle where it will make a tight and liquid-proof fit. By

using this method your developer bottles will be kept clean and the labels will not become loose due to the developer dripping down the side.—R. D. Kershner.

Dual Ever-Ready Case

This arrangement solves that troublesome problem of exposure meter in one hand, camera in the other. It is merely a combination of the eveready camera case and the regular Weston meter sole leather case. Its use certainly shortens the time between reading and shooting.

The meter case is attached to the camera case in such a manner that when a reading on



the meter is being taken the meter dial and the lens aperture on the camera can be quickly set at the same time.

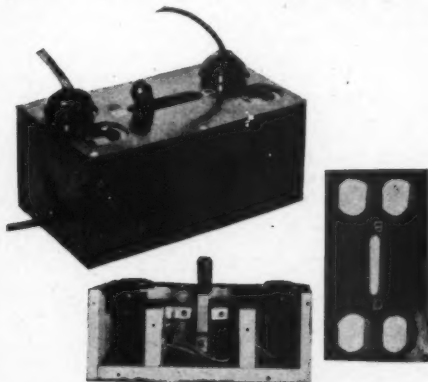
Holes are cut out of the meter case for the dial, light hand and cell opening. The flap of the eveready case is then taken off at its hinge so that the meter case will fit evenly under the camera where they are riveted together, the rivets then being covered by a piece of felt to avoid scratching the camera or meter. The eveready case neck strap is then put further down to go under and include the meter case as well.

The exposure meter case is attached so that its snap button is away from the camera case so the meter can be removed or inserted at will if necessary. When the camera is not in use the eveready camera case flap which was removed can still be used as its snap button will hold it in place nicely.—Harry Kjus.

Flood Light Control

THE use of the switchbox illustrated and described here, which can be easily built by anyone, will considerably reduce the cost of photoflood illumination.

The average life of the No. 1 Photoflood under normal conditions is 2 hours; and the life of the No. 2 Photoflood is 6 hours. These lamps, which are adaptations of those used on the train lighting circuits of 64 volts, produce their intense brilliancy by reason of being overloaded



- A Bright-Dim switch is a necessity for every photoflood user. "D" on the cover plate, above, is the Dim side, and "B" is the Bright. It will increase bulb life many times, as very little current is consumed on "Dim".

when placed in the 110 volt house lighting circuit. This overload also accounts for their short life.

The time consumed in adjusting the lights, posing the subject and focusing the camera generally accounts for most of the life of the photofloods unless some means is taken to conserve their life. Some workers substitute regular 110 volt lamps in their lighting units for the preliminary work prior to the exposure.

This method has two definite disadvantages: it slows up the work while waiting for the lamps to become cool enough to handle; but more important, when working with more than one lighting unit, the relation of the light from the various units will not be the same when the photoflood bulbs are substituted for the 110 volt lamps.

If some means is provided to switch the photofloods into series with each other they will still provide enough illumination for focusing, etc., and each bulb will then receive only half of the 110 volts, or 55 volts, which is slightly under their normal voltage.

This will greatly increase their life and also permits the photographer to adjust lights with the knowledge that when they are switched over to "bright" the lighting will be in the same relationship. Switching the bulbs to "dim," incidentally, effects a considerable saving in the light bill.

In using the photoflood switch box, the lighting units must be used in multiples of two bulbs

Subject ideas— developing and printing methods —practical aids to better pictures



JUST PUBLISHED

MAKING PICTURES with the MINIATURE CAMERA

By JACOB DESCHIN
author of *New Ways in Photography*

NOW, a thorough working manual for the minicamera fan. Gives the information necessary for good results, with examples of what to avoid and what to aim at in finished work. Three big sections, with many diagrams and details, on Taking the Picture, Making the Negative, and Making the Picture. Essentials of getting good shots in 18 major groups of picture subjects. Instructions on equipment and methods of developing and printing. Large gallery of mini pictures that you could get, with shooting data. Complete your equipment with this practical manual. See it 10 days free.

SEND THIS ON-APPROVAL COUPON

McGraw-Hill Book Co., 330 W. 42nd St., N. Y. C.

Send me Deschin's *Making Pictures with the Miniature Camera* for 10 days' examination on approval. In 10 days I will send \$3.00, plus few cents postage, or return book postpaid. (Postage paid on orders accompanied by remittance.)

Name

Address

City and State.....

Position

Company MM-3-38

(Books sent on approval in U. S. and Canada only.)



• A CAT'S EYE •

for all who make enlargements
With the SEE-SHARP you can see those
dim images like a cat in the dark...
and get sharpest focus on your enlargements.

Price only \$2 on an absolute money-back
guarantee, or through your dealer. Descriptive leaflet on request.

R. P. CARGILLE

118 Liberty Street, New York

KODACHROME— Enlargements That Live!

By Eastman Wash Off Relief Process, Dry Mounted

Now you can have clear, realistic enlargements from your color films in all their natural beauty. Prices on request.

ELBERT M. LUDLAM

Now associated with

FRED CONNER

22 West 22nd Street,

New York

Here is the one— DEVELOPING TANK TO DO ALL YOUR ROLL FILM WORK THE F-R ADJUSTABLE ROLL FILM TANK

- Fully adjustable to films of all sizes from a full 36 exposure roll of 35 mm to #116.
- MADE IN AMERICA

59¢



FINK-ROSELIEVE CO., INC.
109 W. 64th STREET NEW YORK CITY



TAKE PICTURES FREE for Pleasure & Profit CAMERA CATALOG

Be a camera expert—make your own prize winning pictures. Do your own finishing and enlarging. It's a grand hobby—easy and fascinating. Send for Catalog No. 1037N just off the press—full of bargains.

SAVE MONEY ON CAMERAS, LENSES AND SUPPLIES

Since 1897 we have been headquarters for fine cameras—new, used and reconditioned. See the hundreds of bargains in accessories, dark room equipment and supplies. Everything for the photographer at money saving prices. Write Dept. M-37 for your copy.

BURKE & JAMES, Inc.
223 W. Madison St., CHICAGO, ILL.



HOME PORTRAITURE

With The Miniature Camera

This simple, straightforward book by H. G. Russell which tells exactly how to make good portraits in your own home.

The first entirely complete authoritative work on miniature portraiture by a well-known expert. Begins with a view of the home studio, its lighting equipment, background and reflectors. Shows the camera equipment and the actual taking of the portrait under varying technical circumstances, indoor and outdoor, child photography and informal portraiture. It deals fully with the developing and printing, and gives complete notes on the special printing baths. Illustrated with pictures and diagrams all the way through.

Only \$1.50

Book Department

MINICAM

22 East 12th Street,

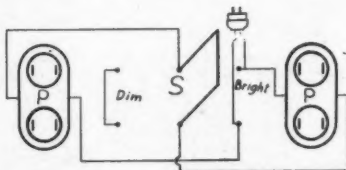
Cincinnati, Ohio

of the same size. In the switch box shown here, provision is made to control four lighting units. These units may be four No. 1 photoflood lamps, two No. 1's and two No. 2's or, four No. 2's.

Two No. 1's or No. 2's may be used, but in which case they must be plugged into opposite ends of the control box. If the house lighting circuit is protected with heavy enough fuses, the box may be built to provide outlets for a larger number of lamps.

The parts required to construct the photoflood switch box consist of two double plug receptacles, one double throw double pole knife switch, wood and screws to construct the box and the necessary wire to connect the parts and to plug the control into the house lighting circuit.

The switch blades and contact points are removed from their base and remounted as shown in the photograph to shorten the "throw" necessary to change the lamps from "dim" to



- The wiring diagram for the box illustrated. One or two bulbs may be plugged in on each side.

"bright." To prevent short circuiting when moving the switch, be sure the switch blades do not touch both sets of contacts at the same time.

With the exception* of the warning about placing the switch contacts too close, the exact construction details and dimensions are unimportant. Each individual builder of the photoflood switch box will be able to incorporate his own ideas in its construction.—R. B. Morris.

RECORDING EXPOSURE DATA

If you hate to fumble around for stray notebooks and thereby neglect to record data after each shot, try this little wrinkle.

On the back of your camera fasten four photo mounting corners spaced to fit a small card such as is used in index files. Use iron glue or cement. Cut a hole in the card to fit over the snap button of the case. On each side of the card rule off spaces for data for 18 exposures. Make columns for meter, filter, stop and shutter readings.

This record is easy to keep and using both sides, each card furnishes a permanent record

After developing each roll, compare negatives with exposure data card and mark each, "Ok," "Under," or "Over," as the case may be. This card then will be a handy exposure guide the next time you go after like subjects.

PHOTOGRAPHY TRADE NEWS

Jena Filters

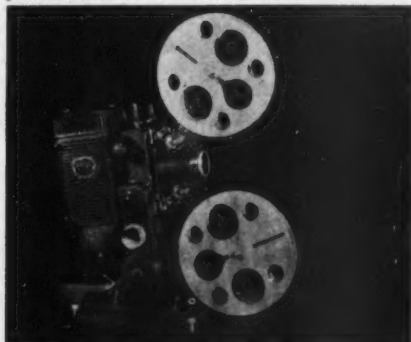
Jena optical glass color filters now are available in a large range of densities in the yellows and reds running from the almost colorless "ultra violet" filter for outdoor summer use, through the yellows, oranges and reds to the "800-R" filter for use with infra red film. Green filters for use with panchromatic emulsions also can be had and blue filters for use with mazda light. For color photography, tri-color sets are available, and Jena filters are recommended for three-color separation work.

For additional information about Jena optical glass filters, write Fish-Schurman Corp., 250 E. 43rd St., New York City.

Ampro's New 1938 Catalogue

The Ampro Corporation 2839 North Western Avenue, Chicago, Illinois, has just produced a colorful and elaborate catalogue of their entire line of silent and sound 16 mm motion picture projectors.

This new catalogue is clearly illustrated and presents a text-book arrangement of all models, giving in complete detail the specifications and special features of each model.



It is something new in dramatic presentation and new also in the field of motion picture projectors. A copy of this brochure will be mailed to dealers and executives requesting it.

Shown above is the Ampro Model "NC," which is convertible to sound.

Imperial Electric Agitator

The Imperial Developing Tank agitator is an electric device for agitating film during development. Your usual fine-grain developing tank is placed on the agitator, and the latter is plugged into any light socket.

The 6 1/2" chromium plated Agitator pan, with its pouring lip for disposing of overflowed surplus liquids, on which is placed any type or size of developing tank, oscillates at the right speed of sixty times per minute.

Manufacturer's address is 1834 South 52nd Avenue, Cicero, Ill.



PILOT 6

Steers you into clear photographic horizons

At prices that compare favorably with those of ordinary roll-film cameras, Pilot Cameras assure a better type of photography, enable you to view your ultimate picture in sharp focus and in ultra-visible, actual film-size on the focusing reflecting finder—and make these results possible on miniature film. The refinements of this remarkable little instrument include, moreover, a high hood that prevents side-light and glare from penetrating the focusing screen; an auxiliary magnifier for ultra-fine focusing; 5 shutter speeds ranging from 1/20th to 1/150th second as well as time and bulb and many other precision camera conveniences.

With f/6.3 lens	f/4.5 lens	f/3.5 lens
\$17.50	\$23.50	\$30.00

Pilot makes sixteen pictures, size 1 1/4 x 2 1/4 inches on standard, economical 120 roll-film.

K. W. REFLEX—A reflecting camera similar to the Pilot. Never before has a genuine reflecting camera been offered at these very low prices. Picture size: 2 1/4 x 3 1/4 inches. Uses 120 roll-film. With f/6.3 Anastigmat \$15.00

With 105mm. f/4.5 lens, Iris diaphragm, wire release, liquid level and shoulder strap \$22.50

FREE TRIAL GLADLY GRANTED

At Leading Dealers Everywhere —
Literature on Request.

BURLEIGH BROOKS, INC.

127 WEST 42nd STREET, NEW YORK

COMING SOON

See April Issue

AMAZING—NEW

WESCO VISUAL EXPOSURE METER

Unprecedented low cost. Gives absolutely correct exposure under all conditions — stills, movies, indoor, outdoor, moving objects, black and white, color.

No calculations, no adjustments, reads direct. Compact, built to last. Out very soon. Watch for it.

WESTERN MOVIE SUPPLY CO.

254 SUTTER STREET,

SAN FRANCISCO

From our Bargain Bulletin

New and Reconditioned

9 x 12 cm. Voigtlander Avus, plate camera, F4.5 Skopar lens. Good condition \$28.50
6x6 cm. Noviflex, Twin lens reflex, Trioplan F2.9 lens. Good condition \$47.50
Zeiss Super Ikomat C, Zeiss Tessar F4.5 lens in compur shutter, coupled range finder. Good condition \$49.50
Welta Perle, 16 pictures on 120 film, F4.5 lens in compur shutter. Like new \$29.95
Zeiss Super Nettel, F3.5 Zeiss Tessar lens. Good condition \$69.50
Baby Ikomat, 1/2-V. P., F4.5 lens in Dervall shutter \$14.00
Reflecta, twin lens reflex, 6x6cm., F4.5 lens in Stelo shutter. Like new \$19.50
3/4x4 1/4 Revolving Back Graflex, Series B, F4.5 K. A. Lens. Good condition \$49.50
Wiggin, roll film, 8 or 16 on 120 film, F4.5 lens in Pronto shutter, speeds from 1 second to 1/175th of a second. Like new \$19.50
Voigtlander Prominent, 120 size roll film, Heliar F4.5 lens in compur shutter, coupled range finder and exposure meter \$39.50

Send for our Complete 40 page Bulletin

All items unconditionally guaranteed. Sold subject to 10 day trial.

PHOTOSHOP Inc.

136 W 32nd St.
New York, N.Y.

Dept. KF

GET ACQUAINTED:

Send for Catalogue M.103 of New and Used Cameras, Binoculars, Field Glasses, etc. Sample Values:—

SUPER SPORT DOLLY, 16 1 3/4 x 2 1/4 or 12 2 1/4 x 2 1/4 on 120 film, F2.9 Trioplan lens, 1/250 compur window sample \$29.50
V.P. DOLLY, F2.9 Trioplan lens, 1/350 compur \$21.00
REFLECTA, Twin lens focusing Reflex, 12 2 1/4 x 2 1/4 on 120, F4.5 lens 1/100 shutter \$19.50
11 Section, Aluminum Tripod, Closed 6 1/4", open 43", complete with case \$8.50

SCHOENIG & COMPANY, Inc.

EIGHT EAST 42nd STREET,

NEW YORK, N. Y.

THE New HYP-O-METER

TAKES THE GUESSWORK OUT OF WASHING PRINTS AND NEGATIVES



Dealers Write to

At last you can be sure that perfect washing has been accomplished. No more yellow stains (decomposition) or poor fixing. Prolonged washing with resultant softened emulsion is avoided.

Hyp-O-Meter indicates 1 part hypo in 10,000 (1 part in 2- or 3,000 considered safe). Comes ready to use with flexible cord contact electrode, complete instructions and 3-year guarantee.

If your dealer cannot supply you, send \$5 and we will ship direct postpaid, or C.O.D. on receipt of \$1.00 deposit.

HAYNES PRODUCTS

136 Liberty St., Dept. H-3
NEW YORK CITY

New UniveX \$3.50 Folding Camera

Universal Camera Corporation, New York, makers of nationally-advertised UniveX photographic supplies, announces the introduction of a new Camera to be known as UniveX Minicam and to retail at \$3.50. It is the most expensive still camera ever marketed by this Company and has many unique features. The negative size of the pictures this model takes is 1 1/2" x 1 1/8", a popular miniature size. Excellent 3" x 4" larger prints may be secured.

The camera is of handy, streamlined design, has an antique bronze front plate. A new type Achromar precision lens is supplied, especially adjusted to each camera at the factory. It is packed in a smart gold and red gift box. It uses the Standard No. 100 Orthochromatic Film that retails for 10c a roll.

UniveX has also just introduced a new pan-chromatic film at 15c a roll (No. 00 Ultrapan is the trade name) for use with its new camera opening avenues of better negative quality to the 6,000,000 UniveX owners.



Universal Camera Corporation announced today that orders are being accepted on the New UniveX Exposure Meters which will retail at \$1.95. It takes a lot of the guess work out of taking movies by telling at a glance exactly to which stop the lens should be adjusted.

It is the only exposure meter that automatically and accurately compensates for types of subjects, number of frames per second, film speed, lens speeds, and filter factors.

The UniveX Cine Meter may be used with any make of movie camera or film.

New Precis 44 Enlarger

The Raygram Corporation, New York, announces their entrance into the enlarger field with the Precis 44 Enlarger.

Here is a rigidly constructed enlarger which guarantees uniform lighting from edge to edge and shockless focusing at every touch of the focusing wheel. It has a negative holder, which is a metalglass combination pressure holder accommodating negatives up to 4 x 4 cm.

Here are some of the specifications:

MAGNIFICATION: Enlargements up to 9 x 14 inches can be obtained on the baseboard.

Condensor System: Single condensor 2 1/2 inch.

Baseboard: Specially seasoned plywood, polished, balanced by rubber legs size 16 x 1 1/2 inch.

Focusing: Rough or preliminary focusing by means of friction wheel on vertical post, micro-critical focusing by means of turning a helical oversized tube in which the lens is mounted.

Red Filter: Attached to focusing gear post.

This enlarger is mounted on a special large post measuring 27 inches, which permits large enlargements without turning of the enlarger itself.

Price complete: \$45.00.

64,000 Attend Leica Show

After 64,000 people crowded in to see the Fourth International Leica Exhibit, during its 16 days showing in New York, nine prize-winning photographs, selected by a group of judges were announced.

The judges awards were as follows:

Professional Section: first prize to Edwin Locke, Washington, D. C., for a picture of Arkansas Flood Refugees; second prize to Charles Peterson, New York City, for a stage photograph, and third prize to Roman Freulich, Los Angeles, for a picture of Leopold Stokowski.

Press Section: first prize to Max Haas, New York City, for a picture of a woman spectator at a tennis match; second prize to Harold Rhodenbaugh, Louisville, Ky., for a picture of "Mud—Louisville Flood" and third prize to Thomas McAvoy, Washington, D. C., for a picture of a church meeting of the Klu Klux Klan.

Amateur Section: first prize to Father Paul Schulte, O. M. I., for a picture made in the Canadian Arctic; second prize to Studley Myers, Washington, D. C., for a picture entitled "Backyard Composition" and third prize to Rhoda Cameron Clark, New York City, for a picture of two dogs swimming to shore.

Medo Dufaycolor Exhibit

Medo Photo Supply Corp., 15 West 47th St., New York wishes to announce a display of Dufaycolor transparencies and full color prints at the initial opening of its 1938 Exhibit. A Dufaycolor representative will be on the floor at all times to answer inquiries concerning the Dufaycolor process.

On view during the week of February 14th, 8:30 A. M. to 5:30 P. M. daily, in the lounge of the Medo store.

Neumade 16 mm. Storage Cabinets

Neumade Products Incorporated, 427 West 42nd Street, New York announces the issue of a new 1938 catalogue, completely revised and fully illustrated covering all types of film editing, laboratory and film storage equipment that are manufactured by this firm.

This concern, since 1916, manufacturing products for 35 mm., has recently gone into the 16 mm. field. Of particular import are the Neumade Film Storage Cabinets which offer the ultimate in protection of valuable 16 mm. films.

Bass Bargainingram

VOL. 28. NO. 4.

MARCH, 1938



Money-saving Candid Camera catalog No. 235—brand new! Lists hundreds of "SAVING" items. Save money on Candid cameras, enlargers, still cameras and accessories. Send now for this remarkable book. Write Dept. MM.

THE NEW ROLLEIFLEX AND ROLLEICORD



Bass has them—just arrived—the last word in efficiency.

Automatic Rolleiflex: with Tessar F:3.5 lens. Compur Rapid shutter to 1/500 sec. with deluxe or Eveready case. **\$145**

Rolleicord II: 6x6 cm. automatic film wind—with Zeiss Triotar F:3.5 lens. One lever Compur shutter **\$75**

Eveready Case, \$6.50



INSTOSCOPE

Eveready—instant—one hand operation. Shows time from 30 min. to 1/1000 sec. From F:2 to F:22. An excellent meter for **\$2.60**

Case Extra, 50c

and these guaranteed Bass Used Bargains

- 4x6, 10x15 cm. Plaubel Precision with F:4.2 Anastigmat in Compur shutter, case, accessories **\$65.00**
- 3A Roll Film Graflex, no lens. **\$15.00**
- 9x12 cm. Double Extension Boxes with film adapter and three holders, no lens **\$12.50**
- 6x13 Helioscope Stereo, latest model, with plate magazine, film adapter, holders **\$150.00**
- 3A Zeiss Nixe Model B, double extension, with Carl Zeiss Tessar F:4.5 lens, Compur shutter with additional film adapter and holders and case **\$47.50**

- Contaflex with Sonnar F:2 lens and carrying case **\$185.00**
- Sept Camera with F:3.5 lens **\$17.00**
- 6x6 Zecaflex with F:3.5 lens, Compur shutter, and case, like new **\$47.50**
- Korelle Model I with Carl Zeiss F:3.5 lens and case **\$47.50**

LENSES

- 50 mm. Sonnar F:2 for Contax, like new **\$64.50**
- 85 mm. Contax Sonnar F:2 Chrome metric marked .. **\$147.50**
- 135 mm. Triotar F:4 for Contaflex, metric marked **\$67.50**



Dept. MM. 179 West Madison Street
CHICAGO, ILL.

"The Camera Cross Roads of the World"



LEUDI

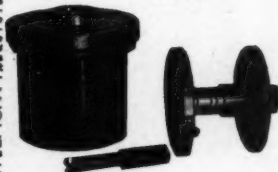
The Ideal Exposure Meter

Ideal—because it is the most compact and easily carried exposure meter made—(fits in vest pocket without bulging); ideal—because it is recognizedly the most dependable of visual meters; ideal operate—and ideally priced —because it is simplest to at only \$2.15.

Price includes attractive colored case.

PERPLEX The Universal Developing Tank

Constantly increasing popularity — constantly increasing production facilities — enable economies which we want you to benefit by. Hence the startling new price, Perplex is the world's most versatile tank, accommodates 127, 117, 120, 118, 828 and 35mm. (24 exposures) film, is made entirely of Bakelite, can't corrode and uses solutions economically. It is indeed today's superlative tank value at only . . . \$5.85



Ask your Dealer — Literature on Request.

MIMOSA AMERICAN CORP.
485—Fifth Avenue, New York

SPEED-O-COPY

The ground-glass Focusing Attachment for Leica or Contax
SPEED-O-COPY for Leica \$28.50
SPEED-O-COPY for Contax 31.50
 Swivel Arm for Leica or Contax Enlarger 10.95
 Sliding Arm for Leica or Contax 9.90
 Lens Tester for Leica Lenses 9.90
 Magnifier for **SPEED-O-COPY**, Leica Slide and Lens Tester 4.95

See Your Dealer — Write for Circulars:

D. Paul Shull, Dept. M3 240 South Union Ave.
Los Angeles, California

Become an expert photographer

We give you personalized training. Commercial, News, Portrait, Advertising, Candid or Motion Picture Photography. Big money-making opportunities or learn for pleasure. Personal Attendance and Home Study courses. 28th year. Write for Free Booklet.

NEW YORK INSTITUTE OF PHOTOGRAPHY
10 WEST 33rd STREET (Dept. 117) NEW YORK CITY

MINACO PROJECTOR — ENLARGER

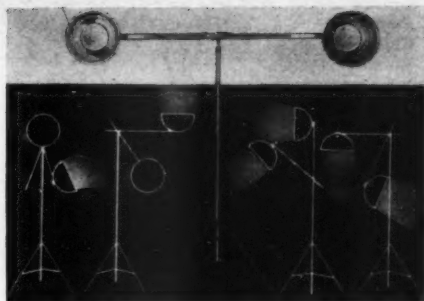
Built to supply the demands of the discriminating advanced "amateur professional." Not a mass product, but individually created for those who seek quality rather than price. Many additional features besides those described here, assure both speed and accuracy. Ideal for projection control, dodging, and elongation. Super-ventilated lamphouse to accommodate photoflood lamps. Unquestionably the finest enlarger.

Revolving aperture permits a quick change of film from a horizontal to a vertical position without necessitating turning of easel or lamphouse. Sliding arm movement forward and backward. It enables you to select a single subject in a group picture, even when located at the extreme upper or lower end or near the margin of the film. Slide tilting for elongation and caricature enlargements. Ask for a MINACO at your dealer.

Model C for negatives up to 2 1/4" x 2 1/4" \$72.50.

Write for MINACO catalog

MINIATURE CAMERA ACCESSORIES CO.
431 West Superior Street CHICAGO, ILL.



"Studio-Robot"—Britelite-Truvision Twinflector

A "studio-robot" neatly describes the No. 110 Britelite-Truvision Twinflector. It is flexible to countless lighting angles. The short time it has been on the market, it has earned the approval of both the amateur and professional photographer.

The Britelite-Truvision Twinflector is popularly priced. Some features can be seen from the above illustration. The manufacturer, Motion Picture Screen and Accessories Co., Inc., 521 West 26 Street, New York, N. Y., offers a free illustrated catalog on this new product.

The Raygram Corporation, New York has taken larger quarters at the same address.

This firm has become a leading wholesale photographic distributor handling such items exclusively as the Maxim Exposure Meter, the Wabash Photoflood Bulb, the Preci 44 Enlarger and the "K" leather carrying case.

They are also manufacturers as well as distributors of Infinol, fine grain developer.

The Maxim Meter was described by MINICAM last month. It is an optical meter, at \$1.75 operating on a new combination of basic light meter principles and requires but one operation to make a reading.

A New Monocular Viewer

This is specially designed as an all purpose viewer, in that 8 and 16 mm. films, and 35 mm. films, either single or double frame or slides may be viewed.

Viewing with this all purpose viewer may be done with one eye, or pictures ocularly projected by the use of both eyes—the latter is done by viewing the film with one eye while the other eye stares intently at a screen, window curtains or light wall on which a bright light is thrown—and, "believe-it-or-not" the picture will project itself thereon in size according to the distance you are from same. The farther away naturally the larger the picture will appear.

The viewing of 8 and 16 mm. films is accomplished by cutting out the pictures desired and mounting them in slides—each slide holding several cut outs, and when mounted in the viewer the adapter cuts out all but the one before the aperture.

The viewer is a product of the Diamond Dee Studios, Bedford Building, Chicago, and is priced at \$1.00 f.o.b. Chicago.

New Jobo Developing Tank

The Intercontinental Marketing Corporation, 10 East 40th Street, New York City, distributors of Robot Cameras are distributors of the new Jobo Developing Tank.

This darkroom accessory is made of lightweight, durable bakelite. It cannot be harmed by developing chemicals. The bottom of the tank is especially moulded to jostle the film, resulting in freer circulation of the developing fluid, resulting in more even and more accurate negatives. The top fits tightly. The Jobo Developing Tank has thinner and more numerous grooves and may be quickly and easily loaded. The film is guarded against buckling or sticking. This tank is available for No. 127, No. 120 and 35 mm. size films. For complete details Intercontinental Marketing Corporation offer a free descriptive circular.

Errata

In a recent advertisement of Infinal the copy erroneously stated that the quantity of the \$1.75 unit was 30 ounces per bottle.

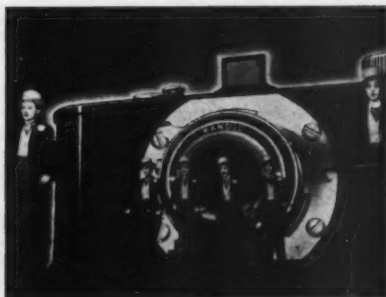
This should have read 32 oz. units for \$1.75.

Smallest Precision Tripod

Camera fans who are interested in small-size high-performance accessories, will be glad to know of the new Automatic Swivel Top. This accessory is the smallest tripod top made.

It is made with watchmaker's precision and is handsomely tooled of the finest steel. Unlike the ordinary swivel tops, the Automatic has no adjustment screws; a powerful inner-spring holds and controls the tilting and rotating top. All you need do is to twist the camera and it is tilted to your order, even as much as an angle of 90 degrees. The Automatic Swivel Top will fit all cameras. It is made by the makers of the Robot camera, and is now available in practically all photographic shops. It is being distributed by the Intercontinental Marketing Corporation, 10 East 40th Street, New York City.

Kandid Camera On the Stage



• Gae Foster Girls.

After facing many candid cameras over the footlights, the Girls decided to turn the tables on the camera fans. A stage-size replica of an Argus was constructed and used as a scenic background, for their act at the Roxy Theatre in New York.

SUPER-SPORT DOLLY



- Small - handy - compact
- Fast Lenses
- Compur Delayed Action Shutter
- Magnifying View-Finder
- Extreme Loading Ease
- Leather bellows and covering
- Extreme Versatility

The Super-Sport Dolly is thoroughly super in every respect. You will readily agree that it is small, handy, compact; that its lenses are sufficiently fast for even the most adverse atmospheric conditions; its shutter sufficiently speedy to capture rapidly moving objects; its versatility evident in its ability to make pictures in two film sizes. You will readily agree that the Super-Sport Dolly is the camera you want. Its refinements include: delayed-action Compur Shutter with speeds up to 1-500 second, self-erecting closed front, helical focusing mount enabling sharp definition up to 5 feet, optical magnifying view-finder, pressure plate for holding film flat, extreme loading ease and genuine leather bellows and covering.

The Super-Sport Dolly makes either sixteen pictures $1\frac{1}{2} \times 2\frac{1}{4}$ inches or twelve pictures $2\frac{1}{4} \times 2\frac{1}{4}$ inches on 120 roll-film. Dimensions: $5\frac{1}{4} \times 3\frac{3}{8} \times 1\frac{9}{16}$ inches.

With Meyer Trioplan f/2.9 in delayed Action Compur Shutter	\$35.00
With Zeiss Tessar f/2.8 in delayed Action Compur Shutter	\$7.50
With Schneider Xenar f/2.8 in delayed Action Compur Shutter	47.50

Write for information on the new Super-Sport Dolly Series with built-in, coupled range-finders.

FREE TRIAL GLADLY GRANTED

At leading dealers everywhere. Literature on request

BURLEIGH BROOKS
INCORPORATED

127 West 42 Street

New York

NEED MONEY?

Why sell your prized cameras? We make liberal cash loans on all kinds of cameras no matter where you are. Send camera to us. Money sent you by return of mail without delay. Low rates. No storage charges. All loans are good for one year.

H. STERN, INC., 872 Sixth Ave., N. Y. City
(COR. 31st ST.) Pawnbrokers since 1858

Infinal

THE FINE GRAIN DEVELOPER

On sale at all leading photographic dealers

RAYGRAM CORP.

428 - 4th Avenue

Dept. N.

New York



For SPEED and FINE GRAIN *Edwal-12*

Develops good negatives with one-half normal exposure.

—No secret formula, no mystery. Just a good fine grain developer designed for speed work and sold at a reasonable price.

Prepared Powders:

Quart size \$0.70 Gallon \$1.75

Super-12 (Liquid):

Quart \$1.25 Gallon \$3.75

Or you can mix your own from the pure EDWAL chemicals. Formulas and Weston ratings on request.



NEW MONOCULAR VIEWER—
for 8-16 and 35 mm films. Single or double frame and slides.
The All Purpose Negative and Positive Viewer

\$1.00

At your dealer or send direct.
FREE: () Sample from Mannelly Art Collection.
() 1938 Press Card.
Send 3 cent stamp to cover postage.

DIAMOND DEE STUDIOS, Bedford Bldg., Chicago

Miniature camera films developed and 2 1/4 x 3 1/2 prints made. Send 36 exposure roll \$1.75, or 18 exposure roll and \$1.00. Twenty-four hour service. Reloads, 18 exposure 25c, 36 exposure 40c, panatomic or super X. Trade your camera in on a new model, for liberal allowance send a description of what you have and what you want. We sell nearly all kinds of cameras.

Barbeau Photo Supplies & Camera Co., Oswego, N. Y.

HANDEE
Tool of 1001 Uses

A Whole Shop Full of Tools in One

Grinds, polishes, routs, drills, cuts, carves, sands, saws, sharpens, engraves. Uses 200 accessories. For home, shop or take to job. Plugs in any socket AC or DC 110V, 13,000 r.p.m.

Get A Demonstration
at Hardware, Dept. Stores, Tool Dealers or order on 10 Day Money-Back Trial, \$10.75 and up postpaid, 3 Accessories Free. De Luxe Model \$18.99, with 6 Accessories. Catalog Free.

Chicago Wheel & Mfg. Co., Dept. 31, 1101 W. Monroe, Chicago

New CRAFTSMAN Project Book
"Pressure and Craft with a Hand-Joe." Many working plans for making many interesting and unusual projects like, stamps or colls.

For Faster Better Jobs

31 Cash Awards, Totaling \$450.00, Offered by Burleigh Brooks, Inc.

The Third Rollei-Show is scheduled to open May 2nd at Rockefeller Center. Exhibitors from all parts of the nation are expected to participate. All entries must be in by April 16th.

The Salon is being held primarily to stimulate interest in advanced photography among users of the Rolleicord, Rolleiflex, Heidoscope and Rolleidoscope Cameras, (made by Franke & Heidecke and distributed in the U. S. A. by Burleigh Brooks, Inc.)

Prints submitted must be at least 7 x 7 inches and mounted in such a way that the overall size does not exceed 16 x 20 inches. No hand-painted entries will be considered.

Entries should be sent to Burleigh Brooks, Inc., 127 West 42nd Street, New York City. Name and address of contestant must be pasted or legibly inscribed on back of each mount and sufficient return postage must be enclosed. Data on exposure and paper used should also be given. There is no entry charge. Any user of the above cameras who is a resident of the United States is eligible and may submit up to four prints. The judges of the contest will be three of the country's best known authorities—Adolf Fassbender, F.R.P.S., Margaret Bourke-White and Herbert C. McKay, F.R.P.S., Technical Editor of MINICAM.

There will be no charge to those visiting the exhibit and everyone interested in fine photography is cordially invited to attend.

The Salon will be divided into two groups. The first will be devoted entirely to pictorial prints—including portraits, landscapes, winter scenes, child pictures, and others of an artistic nature. The second group will include news, candid, technical, fashion and other prints of a commercial or non-pictorial type.

A total of \$450.00, in 31 cash prizes, will be awarded as follows:

1 FIRST PRIZE, Pictorial Group	\$ 75
1 FIRST PRIZE, News and Technical Group ..	75
2 SECOND PRIZES of \$50 each	100
2 THIRD PRIZES of \$25 each	50
5 FOURTH PRIZES of \$10 each	50
20 FIFTH PRIZES of \$5 each	100
31 CASH PRIZES	\$450

* These may be awarded to pictures in either group at the discretion of the judges.

Twenty-five Honorable Mention Certificates will also be awarded.

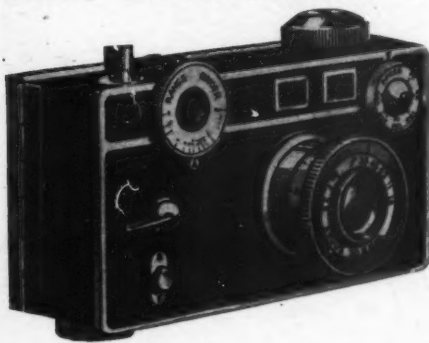
Dan Meyers Back West

From Burleigh Brooks, Inc., comes a news note of special interest to all dealers on the West Coast.

Daniel S. Meyers, formerly in charge of dealer sales in the East, will be Brooks' sole representative there. Mr. Meyers will make his headquarters in Los Angeles, and will cover the entire western territory. Dan Meyers was for many years a resident of Los Angeles. While with E. Leitz, Inc., he pioneered in the miniature camera field—calling on dealers all over the country, giving demonstrations and talks before camera clubs and scientific organizations on the use and application of miniature photography in all fields.

New \$25 Argus

THE new All-American ARGUS camera Model "C" at \$25 is the latest contribution of International Research Corporation. It is a miniature type 35 mm. camera of entirely new design. This advanced model incorporates the additional features which the public asked of the Argus \$12.50 Model AB.



The new model is of compact size measuring 5½ inches long, 2¾ inches high and 2 inches thick, weighing 24 ounces.

The use of the CINTAR f3.5 lens necessitates accurate focusing and to meet this problem the Argus Model "C" is equipped with a built-in range finder. The view finder and range finder eyepieces are placed side by side in a convenient position at the back of the camera. The optical view finder has a perfect infinity focus. The range finder is of the split image sextant type and is built into the case body, making it an integral part of the camera. Focusing the range finder is accomplished by a conveniently located knurled control knob. The image appears in full size with sharpness and distinction.

The film is advanced by a large winding knob and exposures recorded by an automatic counter. Any type of 35 mm. double perforated film may be used in either 36 exposure daylight loading cartridges or the new Agfa-Argus 18 exposure spools. This camera is especially adaptable to all type of color work.

The Model "C" is supplied with the Argus CINTAR f3.5 50 mm. lens as standard equipment. This new triple anastigmat lens provides negatives that will stand enormous enlargement. The lens is fully color corrected. Camera is equipped with a front operated iris diaphragm. The entire objective system moves as a whole in a helical mount and focuses from infinity to 3½ feet. Additional spacer tubes for lengthening focus will be available for copying and close-up work. With the latest ultra speed film this 3.5 lens is adequate for every occasion.

The lens is interchangeable and a series of different type lenses are to be available as additional equipment. The lens front mount is threaded to accommodate a new series of filters which screw into place.

The shutter is of entirely new design and construction. It has a range of ten speeds from 1/5 second to 1/300 of a second including "Bulb."



The NEW CASPECO insured THERMOMETER

For All Developing Tanks
The ONLY Thermometer
Insured against breakage.
 Our Insurance Policy accompanies each thermometer, effective for one year from date of purchase. If instrument breaks FROM ANY CAUSE, return it with policy together with 25c (for handling and postage) and RECEIVE A NEW THERMOMETER.

\$1.50 Each thermometer comes in protective metal container.
 If your dealer does not carry the new insured Thermometer, remit directly to us with name of dealer, and we will fill your order.

CAMERA SPECIALTY CO. inc.

1199B Broadway
 New York, N. Y.

WE DO NOT SELL

cameras or photo supplies but we concentrate our whole efforts on

SUPERIOR FINISHING

Write for price list and free mailing bags.

SCAVERA PHOTO LABORATORY

421 Lexington Ave., Dept. M New York, N. Y.

16mm—HOME MOVIE FANS—8mm

A handling charge of 25c brings

1. Three artistic END TITLES. Specify whether 8mm or 16mm. when ordering.
2. Sample copy HOME MOVIE MAGAZINE.
3. How to obtain 1 year's subscription FREE.
4. Complete lists of 8 or 16mm. Cartoons, Travelogues.

ILLUSTRATED HOLLYWOOD ART CATALOG, etc.

PACIFIC CINE FILMS

1484 N. Gardner, Dept. M-3, Hollywood, Calif.

We have Everything
PHOTOGRAPHIC New or Used
at attractive Prices



CALLING ALL MINICAM-ERS!

New York Camera Exchange invites your inquiry. Get the low-down prices on new or used cameras. Many marvelous buys on hand. Experts on Fine Grain Developing—Printing—Enlarging.

Give us a trial.
CAMERA EXCHANGE ORIGINATORS
 Since 1890 — Address Letters to Dept. M-3

NEW YORK CAMERA EXCHANGE
 109 FULTON ST. NEW YORK

AT COLUMBUS

DIVERSITY

Here you can see every type of miniature camera, Contax, Leica, Retina, Rolleicord, Rolleiflex and others. Compare the particular advantages of one with the other and select the instrument appropriate to your needs in an unhurried and genial atmosphere.

INTEGRITY

Long established, widely known, aware of the photographer's problems, our service is not merely a commercial one. We try to be helpful. We know that a satisfied client is a permanent one.

SPECIALIZATION IN MINIATURE PHOTO-FINISHING

Completely and modernly equipped laboratory on our own premises. Fine-Grain — Super Fine-Grain Developing — Scratch-Proof Treatment — Quality Enlarging — Large Selection of papers and surfaces. Artistic Composition and Effects. Individual requirements followed.

Liberal Trade-in Allowances On Used Equipment

Many bargains in Used Cameras, Enlargers and Lenses. Specify your requirements. Mail Orders Promptly Filled.

Send for Finishing Price List

COLUMBUS PHOTO SUPPLY

146 COLUMBUS AVENUE NEW YORK
at 66th Street and Broadway
TRafalgar 7-8455

DON'T BUY— A PHOTO ENLARGER OR PROJECTOR

until you have made comparisons in Quality and Price.

Write for Circular on the New

"HOLLYWOOD ENLARGER - PROJECTOR" THE SENSATION OF HOLLYWOOD

HOLLYWOOD PHOTO SUPPLY CO.
3835 Hollywood Blvd. Hollywood, Cal.
Projects Prints 35MM Positives
Made from your Negatives on Safety Film for only
10c per foot.

A \$6.95 VALUE FOR ONLY \$5.95



FREE—\$1.00 size of CHAMPLIN'S Fine Grain Developer No. 15 with the purchase of

THE F-R ADJUSTABLE ROLL FILM TANK

Fully adjustable to films of all sizes from a full 38" exposure roll of 35mm to No. 118.....

Lead Exposure Meter With Case \$1.79 P. P.

BIG BARGAIN CATALOG FREE

CAVALIER CAMERA COMPANY

1822 Center Ave.,

Pittsburgh, Pa.

DAYLIGHT BULK FILM WINDER



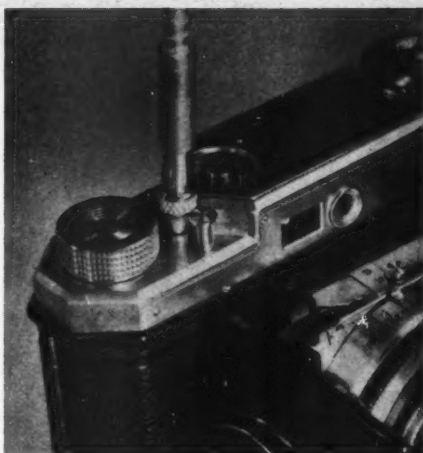
ECONOMICAL — More than pays for itself on the first 100 foot roll of film.

CONVENIENT — Cartridges may be loaded anytime, day or night.
DUSTPROOF — Eliminates scratches and pin holes in emulsion.

Load your 35mm. film cartridge for as low as 15 cents each. Merely insert roll of bulk film in winder in dark room. All other operations including trimming, attaching film and winding, done in daylight. No need to return to dark-room until entire roll is used. Capacity, 100 feet.

Beautiful black bakelite finish. Metal parts chromium plated. Price \$10.00, at your dealers or mailed direct.

Houtzdale Stamp Works, Houtzdale, Pa.



S. Mendelsohn, 202 E. 44th Street, New York City writes:

"Herewith we enclose a picture showing the method of installing a Universal Speedgun on the Retina II camera.

"A great many inquiries have been received from readers of your magazine asking about synchronizers for this newest Eastman camera and the fact that this camera has a remote release button instead of a conventional cable release on the shutter has presented a problem. Anyone who will examine the Retina II camera will see that the position ordinarily occupied by the cable release socket on the shutter has been filled with a small plug. Due to the coupled rangefinder arrangement, it would be impossible to use a cable release in the front part of the camera.

"The Universal Speedgun, 1938 model, with its metal kinkless cable release can be inserted in the back part of the camera as shown in the illustration.

"The fact that the synchronizer may be used with this camera opens a new field of usefulness for photoflash with Kodachrome or Dufaycolor. The fact that a Compur shutter produces from three to four times more light with photoflash than a focal plane shutter for an equivalent size will be welcome information to those people who have been interested in color work."

New Agfa Retouching Medium Introduced

A new retouching medium offering many advantages has just been announced by Agfa Ansco Corporation of Binghamton, New York.

The new Agfa Retouching Medium is a rapid-drying solution which resists the usual tendency of retouching solutions to stain or spot negatives. Very mild rubbing upon application is sufficient to prevent the formation of rings. Negatives treated with the retouching fluid have a heavy 'tooth' and work smoothly without showing a ragged edge to pencil marks. The new Agfa Retouching Medium is available in 2, 4, 8 and 16 ounce bottles.

"The Model" Will Help You If You Are Serious About Photography

KEEP YOUR PHOTOGRAPHIC LIBRARY UP TO DATE

(MINICAM recommends the following books to its readers. All books are sold at the publishers' prices and on a money-back guarantee.)

Get That Picture.....	\$2.50
<i>A. J. Ezickson</i>	
Making Amateur Photography Pay.....	\$1.00
<i>Making money in photography.</i>	
Home Portraiture	\$1.50
<i>H. G. Russell</i>	
Highlights and Shadows.....	\$2.00
<i>Edited by Arnold Genthe</i>	
In Pictures	\$2.50
<i>Will Connell</i>	
Making Pictures With The Miniature Camera.....	\$3.00
<i>Jacob Deschin</i>	
Photographic Amusements	\$3.50
<i>Frank R. Fraprie and Florence O'Connor</i>	
Photographic Hints and Gadgets.....	\$3.50
<i>Fraprie and Jordan</i>	
The Leica Manual.....	\$4.00
<i>Twenty-nine chapters of applied information.</i>	
Miniature Photography	\$1.75
<i>Richard L. Simon</i>	
Enlarging and Enlargers of Today.....	\$2.00
<i>William Alexander</i>	
Elementary Photography	\$1.00
<i>Neblette, Brehm, Priest</i>	
Commercial Photography	\$3.00
<i>Charles</i>	
Free Lance Journalism With A Camera.....	\$1.50
<i>Mallinson</i>	
Technique of Color Photography.....	\$2.00
<i>Newens</i>	
Photographic Handbook	\$2.00
<i>Kendall & Witty</i>	
How To Use Your Candid Camera.....	\$3.50
<i>Ivan Dmitri</i>	
The Photographic Darkroom.....	\$1.50
<i>Wall</i>	
Amateur Movies and How To Make Them....	\$3.50
<i>Strasser</i>	
The Beauty of The Female Form.....	\$2.00
<i>Park & Gregory</i>	
Let's Make A Portrait.....	\$1.00
<i>DeLardi</i>	
Retouching Negatives and Prints.....	\$1.50
<i>Ross</i>	
Photography in Modern Advertising.....	\$5.00
<i>Stapely & Sharp</i>	
My Best Nude Study.....	\$2.00
<i>Composition for Photographers.</i>	
<i>Haile</i>	
Press Photography	\$3.00
<i>Kinkaid</i>	

"THE MODEL" is a book on problems and posing, for the photographer interested in taking successful pictures of the nude or portraits.

William Mortensen, author of "THE MODEL," is the one man who could write this book. A brilliant authority and acclaimed photographer, Mr. Mortensen tells you the hundreds of small details which go into photographing the model, the thousands of possibilities in applying artistry to your picture taking of the human body.

272 pages, 268 astounding illustrations of the author's own widely envied work are included.

You will know where to find models, what to do with them, and how to make vividly splendid photographs from them after you have read "THE MODEL."

Order nowClothbound, \$3.00

All books sent postpaid!

MINICAM,
22 East 12th Street, Cincinnati, Ohio.

Gentlemen:

- ☐ Send me postpaid one copy of "The Model." I enclose \$3.00.
- ☐ Enter my one year subscription to MINICAM, the Miniature Camera Monthly, and send me postpaid one copy of "The Model." I enclose \$4.95.
- ☐ Enter my one year subscription to MINICAM for which I enclose \$2.50.
- ☐ Send me postpaid the book I enclose \$.....

Name

Address

City State

An airliner, a photographer
and *Versatile* **ROBOT**
go adventuring....

Versatile-ROBOT, approved camera of the United Airlines Pilots, visits Newark Airport.



Robography by Goro.

It's fun to go adventuring with Versatile-ROBOT as it pokes an inquisitive lens in America's busiest airport... as it shoots at an unusual angle from under a wing... as it rides high over New York City... as it arrests the spires of tall buildings... it creates a cathedral-like portrait of sun and shadows on an airliner in a hangar.

VERSATILE-ROBOT, Grand Prix winner at the 1937 Paris Exposition, more than just another fine precision minicam. It is years ahead of any other in the field. Due to its unique spring motor drive, sequential shooting mechanism and Zone Focusing, it has created a new technique in photography.

With Versatile-ROBOT, you can take as many as 24 sequences, slow or rapid succession, without having to fuss with gadgets between shots. Thus you are always ready for those unusual pictures that never can be anticipated.

Versatile-ROBOT's exclusive Zone Focusing takes care of sharpness over an amazing depth and supersedes the range finder. Other features include time-compensating built-in filter, rotary disc-type shutter, interchangeable lenses, low operating cost.

Ask your dealer to show you this sensational new kind of camera. Hold it... focus it. See for yourself why it is revolutionizing the miniature field... or write for your copy of the interesting booklet, "The Camera That Never Loses A Picture"... Dept. 211.

ROBOT with Meyer Primotar, F3.5 lens \$119.00
ROBOT with Zeiss Tessar, F3.5 lens \$134.00
ROBOT with Zeiss Tessar, F2.8 lens \$149.00
(Uses standard 35mm film; negatives enlarge to 3 x 3 in.)

"SEQUENCE ROBOT GETS THE PICTURES OTHERS MISS"



INTERCONTINENTAL MARKETING CORPORATION

10 East 40th Street

New York City



INTERCONTINENTAL

ens to
wing.
...
hang

ion.
ead
quens
nniq

res,
twos
nev

rpne
atur
inte

s it.
copy
111.